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ABSTRACT

The child care statistics in this report concern children under the age of 15 years whose parents or guardians were employed in the labor force or attending school from September to November, 1987. Topics addressed include the ways in which these children were cared for while their parent were at work or in school; the complexity of these arrangements and the accompanying disruptions in the daily work schedule; and the financial costs attributable to child care services. Data concern primary child care arrangements, trends in child care arrangements from 1977-87, child care arrangements for preschoolers, secondary child care arrangements, work disruptions caused by failures in child care arrangements, and the cost of child care arrangements. Three figures, seven text tables, seven detailed tables, and nine appended tables substantiate the text. Remarks on methodological issues are appended. (RH)

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CURRENT POPULATION REPORTS
Household Economic Studies
Series P-70, No. 20

by
Martin O'Connell
and Amara Bachu

Who's Minding The Kids?

Child Care Arrangements: Winter, 1986-87

SIPP
Survey of Income and Program Participation

U.S. Department of Commerce
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Child Care Arrangements:
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Who's Minding the Kids? Child Care Arrangements: 1986-87

INTRODUCTION

The child care statistics shown in this report are for children under the age of 15 whose parents or guardians were employed in the labor force or attending school during September to November, 1987. How these children are cared for while their parents are at work or in school, the complexity of these arrangements and the accompanying disruptions in the daily work schedule, and the financial costs attributable to child care services are some of the topics presented in this report.

Survey background. Data on child care arrangements have been collected by the Census Bureau in prior supplements to the Current Population Survey (CPS) since 1958 [1] and more recently in supplements to the Survey of Income and Program Participation (SIPP) since 1984.[2] This report discusses the most recent statistics on child care arrangements in the United States based on data collected in the SIPP for the September-November 1987 period. Final statistics for 1986 are also shown in the detailed tables in this report, updating preliminary data published in a press release issued in 1989.[3] Data from earlier CPS and SIPP supplements on child care also are presented in order to show an historical perspective on changes that have occurred in the way working parents arrange for the care of their children. The arrangements shown in this report do not distinguish between the demands and desires for specific types of child care services by working parents or the supply or availability of these arrangements. The numbers shown here represent the current arrangements used by working parents who have decided what arrangements should be used based on their individual needs and resources and the availability of child care services.

Terms used in this report. The term "child care arrangements" used in this report describes how children are cared for during the time their parents are at work or attending school. Child care arrangements include not only informal arrangements where neighbors, relatives, or family members look after the children either in the child's home or their own homes but also organized child care facilities such as day or group care centers and nursery schools or preschools.

Also included are responses which indicate that the parents themselves care for their children while at work (either at home or outside their home) or in school, or that the children are left to care for themselves. Since school-age children are included in the survey, child care, in its broadest sense, also includes the time children are enrolled in kindergarten or grade school during the time their parents are at work or in school.

Some parents may use more than one type of child care arrangement in a typical week; therefore, two categories of arrangements are shown in this report, primary and secondary. The primary child care arrangement refers to what the child was usually doing or the way the child was usually cared for during most of the hours the child's parent was at work or in school. If other arrangements were used in addition to the primary arrangement, the one used second most frequently was called the secondary arrangement. For example, if a child was in grade school most of the time his or her parent worked and then was left to care for himself or herself after school, the primary child care arrangement for this child would be "enrolled in grade school" and the secondary child care arrangement would be "child cares for self."

The respondent determined the category of the child care arrangement used for his or her own children. No inquiry was made in the survey concerning the licensing status of the child care facilities or private homes providing the child care.

Information on child care arrangements used by parents for their children was asked of the wife and not the husband in the case of married-couple families. As such, arrangement usage refers to the time the wife, not the husband, was at work or in school. In families where only one parent was present or where the child was cared for by a legal guardian (excluding foster parents), information on child care arrangements was obtained from that parent or guardian. In cases where the designated respondent was both employed at a job and enrolled in school, questions on child care arrangements pertain only to the time the respondent was at work. Otherwise, the questions refer only to the time the

[1] Current Population Reports, Series P-23, No.117, *Trends in Child Care Arrangements of Working Mothers,* and Series P-23, No. 129, *Child Care Arrangements of Working Mothers: June 1982.*

[2] Current Population Reports, Series P-70, No.9, *Who's Minding the Kids? Child Care Arrangements: Winter 1984-85.*

[3] Press release, July 27, 1989, CB 89-119, "Child Care Costs Estimated at $14 Billion in 1986, Census Bureau Survey Shows."

respondent was either at work or in school. The terms "employed" or "working" mothers or women are used interchangeably in this report to refer to women employed in the paid labor force in the month preceding the interview.

HIGHLIGHTS

(The figures in parentheses denote the 90-percent confidence interval of the estimate.)

Child Care Arrangements and Trends

- In the fall of 1987, 59 (±0.9) percent of children under 15 years old had mothers who were employed in the labor force. Another 3 (±0.3) percent had mothers who were enrolled in school.
- The majority of preschool-age children with employed mothers in the fall of 1987 were cared for in a home environment while their mothers were at work; 30 (±1.9) percent were cared for in their own homes, while 36 (±2.0) percent were cared for in the provider's home.
- Twenty-four (±1.8) percent of preschool-age children with employed mothers were cared for in day/group care centers or nursery/preschools during most of the hours their mothers were at work in fall 1987. These proportions were significantly higher than those estimated for preschoolers in June 1977 (13 ±1.4 percent) from the Current Population Survey.
- About 8 (±0.3) million children of employed mothers also used a secondary child care arrangement in fall 1987. The majority of children (6 million ±0.3 million) using secondary arrangements were 5 years and over and were attending kindergarten or grade-school during most of the time their mothers were at work. Twenty-two (±2.2) percent of these children (1.3 million ±0.1 million) cared for themselves after school.

Economic Aspects of Child Care Arrangements

- Child care related work disruptions affected 7 (±1.1) percent of employed women with children each month in fall 1987. Among women with only one child, work disruptions were more prevalent among women with infants and 1- and 2-year-olds than among women with school-age children.
- Children under 5 living in poverty in fall 1987 depended more on in-home care by their grandparents and relatives than did children of more economically advantaged parents. On the other hand, families which were not poor more often used organized child care facilities and family day care providers outside their homes for their children than did families living in poverty.

Child Care Expenditures

- One-third (±2.5 percent) of the families with employed women with children under 15 years old paid for child care during fall 1987, averaging $49 (±$3)per week. This amounted to an estimated annual expenditure of $15.5 billion. Since the first SIPP survey taken in winter 1984-85, costs have increased by $8.20 (±$3.40) per week, of which $3.60 of this increase was the result of inflation.
- Child care costs in fall 1987 were higher in the Northeast ($57, ±$11)) than in the South ($43, ±$4). Families in the Northeast reported that child care expenditures made up 7.1 (±1.1) percent of their monthly family income which was not statistically different from 6.6 (±0.6) percent reported by families living in the South.
- Child care payments in fall 1987 amounted to 6.6 (±0.5) percent of the monthly family income of employed mothers of children under 15. Women in poverty who made child care payments spent one-quarter (±4.8 percent) of their family income on child care, compared with 6.3 (±0.5) percent for employed women in families who were not poor.

POPULATION COVERAGE

The child care data presented in this report profile the arrangements typically used for children under 15 years old (including any adopted or stepchildren) during the time their parents were at work or in school. There were an estimated 52.1 million children under age 15 living in the United States with their mothers in the fall (September to November) of 1987 (table A). About 59 percent of these children (30.6 million) had mothers who were employed. Since the data on child care arrangements were collected only for the three youngest children under age 15 in the family, data are shown for 28.8 million children. This represents 94.2 percent of all children under 15 years of age of employed mothers.

In addition to the children whose mothers were employed, there were another 1.4 million children whose mothers were enrolled in school, of which 1.2 million (90.5 percent) were in the survey universe. The remaining children, 20.1 million, were living with mothers who were neither employed nor attending school. Some of the children of these women may also attend nursery schools or day care centers during the day. However, the SIPP data set shown in this report did not include questions on child care arrangements for parents who were neither employed nor enrolled in school. Future child care supplements to the SIPP will ask child care questions of persons who are not employed but looking for a job.

The final group shown in table A is children who are not living with their mothers but with their fathers or male guardians who were either employed or enrolled in

Table A. **Population Universe for Child Care Module: Fall 1987**

(Numbers in thousands. Numbers represent average monthly estimate of employed and enrolled parents or guardians and their children)

Population	Total	Children under 5	Children 5 to 14
Total women[1]:			
Number	29,767	14,457	21,555
Number of children[2]	52,092	18,463	33,630
Employed women[3]:			
Number	18,501	7,914	13,917
Number of children[2]	30,612	9,550	21,061
Children in sample[4]	28,842	9,124	19,718
Women enrolled in school[3]:			
Number	771	452	458
Number of children[2]	1,369	594	775
Children in sample[4]	1,239	569	670
Men employed or enrolled in school[3]:			
Number	1,407	452	1,117
Number of children[2]	2,197	524	1,673
Children in sample[4]	1,906	467	1,439

[1]Refers to average monthly number of women as of interview date, October-December, 1987.
[2]Total number of children living with a parent or a guardian.
[3]Employed or enrolled in school as of reference month.
[4]Information collected only for three youngest children living in the household.
Note: Total number of parents is less than individual estimates by age of children as some parents have children in both age groups.

school. An estimated 1.4 million men cared for approximately 2.2 million children under 15 years old. Since the child care questions were asked only for the three youngest children in the household, the estimated population for analysis was reduced to 1.9 million children.

PRIMARY CHILD CARE ARRANGEMENTS

Table B shows the distribution of the primary child care arrangements for children under 5 years old (preschoolers) and grade-school-age children 5 to 14 years old in fall 1987.

Child care arrangements for grade-school-age children. Seventy-one percent (14 million) of the 19.7 million grade-school-age children of employed mothers were in either kindergarten or grade school most of the hours their mothers were at work. This does not mean that the remaining 29 percent were not enrolled in school; rather it implies that the majority of the hours that the mothers worked did not necessarily coincide with their children's school day. A subsequent section in this report will examine the secondary child care arrangements provided for school-age children in addition to the time they spend in school.

Of the remaining 5.7 million grade-school-age children not attending kindergarten/grade school, 2.7 million children were cared for in their own home. One-half of the total care in the children's homes was provided by the children's fathers. About 800,000 children were left unsupervised most of the time that their mothers were at work.

Child care arrangements for children under 5 years old. Employed women with preschool age children use more non-school types of child care arrangements for their children than do employed women with older children who spend most of their daytime hours in school. Thirty percent of preschoolers in fall 1987 were cared for in their own homes, mainly by their fathers,

Table B. **Primary Child Care Arrangements Used by Employed Mothers for Children Under 15: Fall 1987**

(Numbers in thousands)

Type of arrangement	Total		Under 5 years		5 to 14 years	
	Total	Percent	Total	Percent	Total	Percent
All children	28,842	100.0	9,124	100.0	19,718	100.0
Care in child's home	5,397	18.7	2,726	29.9	2,671	13.5
By father	2,719	9.4	1,395	15.3	1,324	6.7
By grandparent	750	2.6	463	5.1	287	1.5
By other relative	1,090	3.8	298	3.3	792	4.0
By nonrelative	838	2.9	570	6.2	268	1.4
Care in another home	4,309	14.9	3,249	35.6	1,059	5.4
By grandparent	1,177	4.1	792	8.7	384	1.9
By other relative	593	2.1	414	4.5	179	0.9
By nonrelative	2,539	8.8	2,043	22.4	496	2.5
Organized child care facilities	2,679	9.3	2,220	24.3	459	2.3
Day/group care center	1,806	6.3	1,465	16.1	341	1.7
Nursery school/preschool	873	3.0	755	8.3	118	0.6
Kindergarten/grade school	14,105	48.9	90	1.0	14,014	71.1
Child cares for self	832	2.9	24	0.3	807	4.1
Mother cares for child at work[1]	1,521	5.3	814	8.9	707	3.6

[1]Includes women working at home or away from home.

while 36 percent were cared for in another home, usually by someone not related to the child (table B). The use of organized child care facilities (24 percent) was substantial for these younger children, and provided the primary child care services for 2.2 million children under 5 years old.

An additional 9 percent of preschoolers were cared for by their mothers while working, either at home or away from home, thus eliminating potentially expensive commuting and child care costs. The types of jobs women hold also affect their ability to care for their children while working. For example, of the 724,000 mothers with preschool children who cared for their own children while working, about 26 percent of those mothers were employed either as private household workers or as child care workers.

The hourly demands for child care services placed upon families with mothers employed full time cannot normally be met by other household members or relatives who have full-time jobs and career commitments. As a result, the location of child care activities for full-time working mothers tends to be outside of the child's home and with nonrelatives, rather than in the child's home with family members or relatives.

Table 1B shows that preschool-age children of mothers employed full time in fall 1987 were less likely to be cared for at home (24 percent) than were children of mothers employed part time (39 percent). Child care provided by the father was also less frequently used by women who worked full time (10 percent) than who worked part time (25 percent). Part-time working mothers may have taken jobs or had their work hours scheduled in the evenings or weekends in order that fathers working on a "9 to 5" schedule could look after their children.

In addition, 13 percent of the children of part-time workers were cared for by their mothers while at work, compared with 7 percent of the children of women working full time. Offsetting this less frequent use of parental care by full-time working mothers was their greater reliance on child care in the home of someone unrelated to the child (39 versus 30 percent) and on organized child care facilities (28 verses 18 percent).

Child care arrangements used by mothers enrolled in school. Only 3 percent of children under 15 years in fall 1987 had mothers enrolled in school (table A). Of the 1.2 million children under 15 years for whom information was collected, 36 percent were attending kindergarten/grade school themselves while their mothers were enrolled in school (table 3).

For children under 5 years, 41 percent of the care was provided in the child's home (one-half of the children cared for at home were cared for primarily by the father) and another 21 percent were cared for in either a day/group care center or in a nursery/preschool arrangement.

For children 5 to 14 years, 65 percent attended kindergarten/grade school while another 14 percent were cared for by their fathers at home during the time their mothers were attending school.

Child care arrangements used by fathers or male guardians. The SIPP questionnaire on child care was designed primarily to collect data on the child care arrangements of women either employed or enrolled in school. Questions were also asked about the arrangements used by children who were living with their fathers (and not their mothers) or with male legal guardians. Table 4 shows the primary child care arrangements used by the father or male guardian while at work or enrolled in school for their three youngest children under 15 years of age. In fall 1987, 1.9 million children under 15 years of age were living with their fathers or male guardians, and 1.4 million of these children were of grade-school age.

Seventy-one percent of grade-school-age children living with their fathers had their child care needs addressed by attending kindergarten/grade school (table 4). Among preschool-age children living with their fathers, 39 percent were cared for primarily in organized child care facilities (day/group care centers and nursery/preschools). A large proportion of preschoolers (19 percent) living with their fathers, however, still received child care from their mothers who lived elsewhere.

TRENDS IN CHILD CARE ARRANGEMENTS: 1977-87

In the June 1977 Current Population Survey, information was collected about the child care arrangements used by employed women for their two youngest children under 5 years old. In June 1977, 35 percent of these women with preschoolers were employed at the time of the survey.[4] Data for the fall of 1987 from the SIPP (table A), indicate that 55 percent of women with children under 5 were employed. What changes have occurred in the child care arrangements used by these women during this period of increasing employment?

Table C shows the distributions of the primary child care arrangements used by employed mothers for their children under 5 years old for selected survey years between 1977 and 1987. Data from the Fall 1987 SIPP survey and the first SIPP survey taken in winter 1984-85 (December 1984 to March 1985) indicate that there were no significant changes in the distribution of child care services utilized by employed women for their preschool-age children since 1984.

From a longer perspective, several changes have been noted in the 10-year period prior to the SIPP. Since 1977, there has been a decline in the utilization of

[4]Current Population Reports, P-23, No. 117, *op. cit.*, table A-2.

Table C. **Primary Child Care Arrangements Used by Employed Mothers for Children Under 5: Selected Periods, 1977-87**

(Numbers in thousands)

Type of arrangement	Fall 1987	Fall 1986	Winter 1984-85	June 1977[1]
Number of children	9,124	8,849	8,168	4,370
Percent	100.0	100.0	100.0	100.0
Care in child's home	29.9	28.7	31.0	33.9
By father	15.3	14.5	15.7	14.4
By other relative	8.4	8.6	9.4	12.6
By nonrelative	6.2	5.5	5.9	7.0
Care in another home	35.6	40.7	37.0	40.7
By relative	13.3	16.7	14.7	18.3
By nonrelative	22.3	24.0	22.3	22.4
Day care/nursery school	24.4	22.4	23.1	13.0
Child cares for self	0.3	-	-	0.4
Mother cares for child at work[2]	8.9	7.4	8.1	11.4
Other arrangements[3]	1.0	0.8	0.8	0.6

- Represents zero.
[1]Data only for the two youngest children under 5 years of age.
[2]Includes women working at home or away from home.
[3]Includes children in kindergarten/grade school.

Source: Tabulations derived from the June 1977 Current Population Survey; Current Population Reports, Series P-70, No. 9, table 1, and tables 1A and 1B of this report.

relatives as child care providers both in the child's home and in the provider's home. For example, care provided by relatives (other than by the child's parents) in the child's home declined from 12.6 percent in 1977 to 8.4 percent in 1987. Similarly, care provided by relatives in their own homes also decreased between 1977 and 1987. The decline in the availability of relatives as child care providers may reflect the overall increase in the labor force participation of women outside the home, thus reducing the potential number of female relatives available for child care services. The proportion of children cared for by their mothers while at work also declined between 1977 and 1987 from 11.4 to 8.9 percent.

Declines in relative and maternal child care providers were offset by increases in the proportion of children cared for in organized child care facilities (day/group care centers or nursery/preschools). In fall 1987, 24 percent of children under age 5 were in organized child care facilities most of the time their mothers were at work. Other SIPP surveys from previous years show no significant change in this type of arrangement. However, earlier estimates from the Current Population Survey indicated that only 13 percent of children were in organized child care facilities while their mothers were at work in June 1977.

Seasonal variation in child care. The comparisons shown in table C have not been adjusted for possible seasonal variation in child care arrangements throughout the year. Differences noted between June 1977 and September to November 1987 may have partly resulted from seasonal variation in the availability of child care facilities over the course of the year. Data in table D from SIPP surveys in 1986 covering the period August to November indicate that seasonal variation may affect the type of child care arrangements used by parents for their children.

Among preschool age children, nursery/preschool child care arrangements were used less often in August 1986 (3 percent) than in September to November (7.5 percent). As with grade schools, many nursery and preschools close during the summer months. No differences were noted in the utilization of day/group care centers for preschoolers (15 percent) between August and September to November. On the other hand, during the summer, a greater proportion of preschoolers are cared for in their grandparent's homes or by their mothers while at work. It is likely, then, that estimates of the utilization of organized child care facilities derived from the June 1977 CPS and other June CPS supplements may have reflected a low seasonal usage of these arrangements compared to usage during the school year.

Seasonal variation in child care arrangements is even more marked for children 5 to 14 years old. Table D shows that while 71 percent of these children were in school most of the time their mothers were at work in the fall of 1986, only 22 percent were attending school during August while their mothers were at work. Self care by the child was considerably higher in August (13 percent) than in the fall (5 percent), as was care by the mother while she was at work, and care either in the child's or in another home. Even though day/group care usage was very low for these older children during the fall 1986 school year (2 percent), in August 1986, about 6 percent of grade-school-age children were cared for in such centers.

Table D. **Primary Child Care Arrangements Used by Employed Mothers for Children Under 15, by Age of Child: August 1986 and September to November 1986**

(Numbers in thousands)

Age of child and type of arrangement	Children under 5 years		Children 5 to 14 years	
	August 1986	September to November 1986	August 1986	September to November 1986
Number of children	9,582	8,849	19,225	19,692
Percent	100.0	100.0	100.0	100.0
Care in child's home	28.4	28.7	32.8	13.2
By father	14.6	14.5	11.1	7.2
By grandparent	4.6	5.2	3.3	1.2
By other relative	2.3	3.4	10.7	3.6
By nonrelative	7.0	5.5	7.7	1.3
Care in another home	42.0	40.7	17.0	5.5
By grandparent	15.8	10.2	6.8	1.7
By other relative	6.0	6.5	2.8	1.1
By nonrelative	20.2	24.0	7.5	2.7
Organized child care facilities	18.0	22.4	6.2	2.7
Day/group care center	15.0	14.9	5.6	1.7
Nursery school/preschool	3.0	7.5	0.6	1.0
Kindergarten/grade school	0.2	0.8	22.0	70.6
Child cares for self	-	-	13.2	4.8
Mother cares for child at work[1]	11.3	7.4	8.7	3.2

- Represents zero.
[1]Includes women working at home or away from home.

Note: Data for August 1986 are from Wave 6 of the 1985 panel. Data for September to November, 1986 are from the combined SIPP panels of 1985 (Wave 6) and 1986 (wave 3).

CHILD CARE ARRANGEMENTS FOR PRESCHOOLERS

Variations in arrangements by age of the child. The previous sections have indicated that the types of child care arrangements used by employed mothers vary greatly among preschool and grade school age children. But even among preschoolers, variations in child care arrangements can be found by age. As the children grow from infancy to school age, employed women make considerable changes in the child care arrangements in order to meet the needs of their children and the changing demands of their family and their employer. However, problems in finding child care arrangements for young children are often encountered by working adults since organized child care facilities usually deny the admission of infants and very young children. Estimates from the June 1987 Current Population Survey (CPS) show that 51 percent of all women 18 to 44 years old who had a birth in the 12-month period preceding the survey were in the labor force, up from 31 percent in 1976.[5]

Data from the SIPP indicate that there were 1.5 million children under 1 year of age in the fall of 1987 whose mothers were employed in the labor force (table E). Seventy percent of the infants were cared for in either the child's home or another home (figure 1). Another 12 percent were cared for in day/group care centers while 2 percent were cared for in nursery/preschools.

Among 1- and 2-year-olds, child care either in the child's home or in another home accounted for 74 percent of all arrangements while organized child care facilities made up 18 percent of the primary care for these children, neither of these percentages being statistically different from that recorded for infants' arrangements (figure 1). For 3- and 4-year-old children, care in either the child's home or in another home declined to only 56 percent of all arrangements while organized child care facilities made up 34 percent of the primary care.

Organized child care facilities. The term organized child care facilities used in this report refers to day/group care centers and nursery/preschools. A day/group care center must be an incorporated business and licensed to care for children and may be run by a government agency, a business enterprise, or a charitable or religious organization. A day care center may be located in a private home. If a person is licensed to care for children in his or her own home but does not claim to be a business enterprise or day care center, this arrangement is categorized as care provided by a "nonrelative in another home." Often, this provider is called a "family day care provider."

[5]Current Population Reports, Series P-20, No. 427, *Fertility of American Women: June 1987*, table C.

Table E. **Primary Child Care Arrangements Used by Employed Mothers for Children Under 5, by Age of Child: Fall 1987**

(Numbers in thousands)

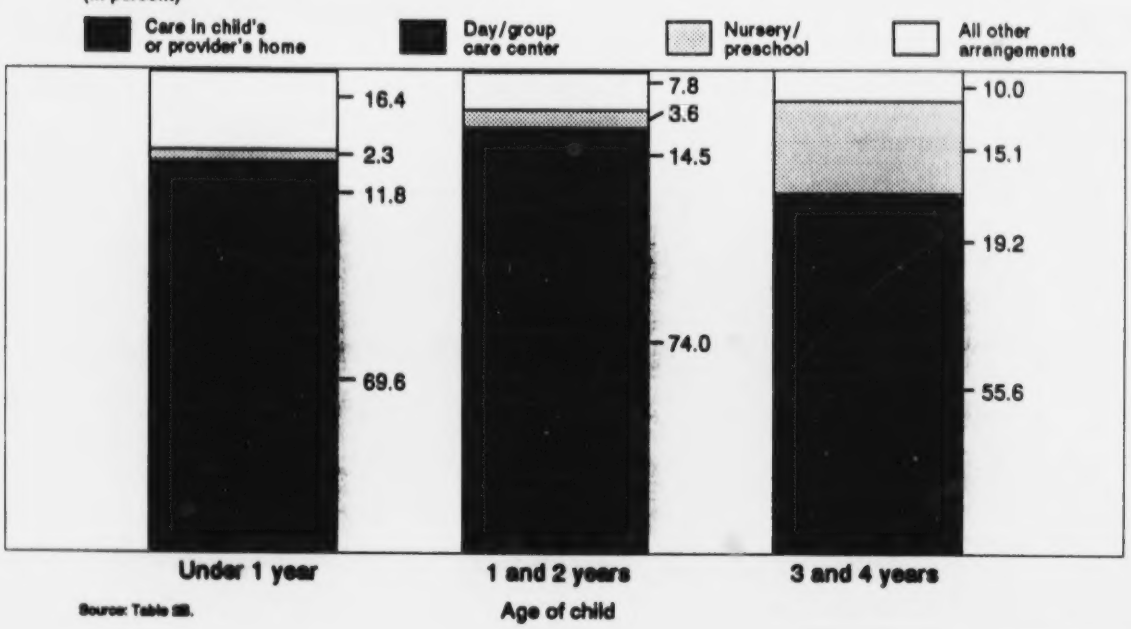
Type of arrangement	Total		Under 1 year		1 to 2 years		3 to 4 years	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Number of children	9,124	100.0	1,485	100.0	3,771	100.0	3,868	100.0
Care in child's home	2,727	29.9	463	31.2	1,235	32.7	1,029	26.6
By father	1,395	15.3	232	15.6	596	15.8	567	14.7
By grandparent	463	5.1	81	5.5	200	5.3	182	4.7
By other relative	298	3.3	27	1.8	188	5.0	83	2.2
By nonrelative	570	6.2	123	8.3	250	6.6	197	5.1
Care in another home	3,251	35.6	570	38.4	1,558	41.3	1,123	29.0
By grandparent	793	8.7	131	8.8	312	8.3	350	9.0
By other relative	428	4.7	93	6.3	228	6.0	107	2.7
By nonrelative	2,031	22.3	346	23.3	1,019	27.0	666	17.2
Organized child care facilities	2,220	24.3	209	14.1	683	18.1	1,328	34.3
Day/group care center	1,465	16.1	175	11.8	546	14.5	744	19.2
Nursery school/preschool	755	8.3	34	2.3	137	3.6	584	15.1
Kindergarten/grade school	90	1.0	-	-	-	-	90	2.3
Child cares for self	24	0.3	6	0.4	9	0.2	9	0.2
Mother cares for child at work[1]	813	8.9	237	16.0	287	7.6	289	7.5

- Represents zero.
[1]Includes women working at home or away from home.

These distinctions may not always be clear to the respondent and may even be affected by regional differences in terminology or governmental regulations used to categorize child care arrangements.

Nursery schools or preschools are used to describe formal organizations which provide an educational experience for children before they are old enough to enter kindergarten or grade school. These organizations include

Figure 1.
Primary Child Care Arrangements for Infants and Preschoolers: Fall 1987
(In percent)



Source: Table E.

instruction as an important and integral phase of their program of child care. Head start programs are included in this category.

Characteristics of users of organized child care. In fall 1987, 16 percent (1,465,000) of children under 5 years old of employed women were in day/group care centers while another 8 percent (755,000) were enrolled in nursery/preschool programs (table E). Three- and four-year-old children constituted the majority (60 percent) of preschoolers using organized child care facilities; 9 percent were under 1 year of age and 31 percent were either 1 or 2 years old.

Table 1B shows that the use of day/group care arrangements was higher among women employed full-time (19 percent) than among women employed part-time (11 percent) as was nursery/preschool usage (9 and 7 percent, respectively). One-quarter of the primary child care arrangements for the children of part-time working women were provided by the children's fathers which partly accounts for their low usage of organized child care facilities.

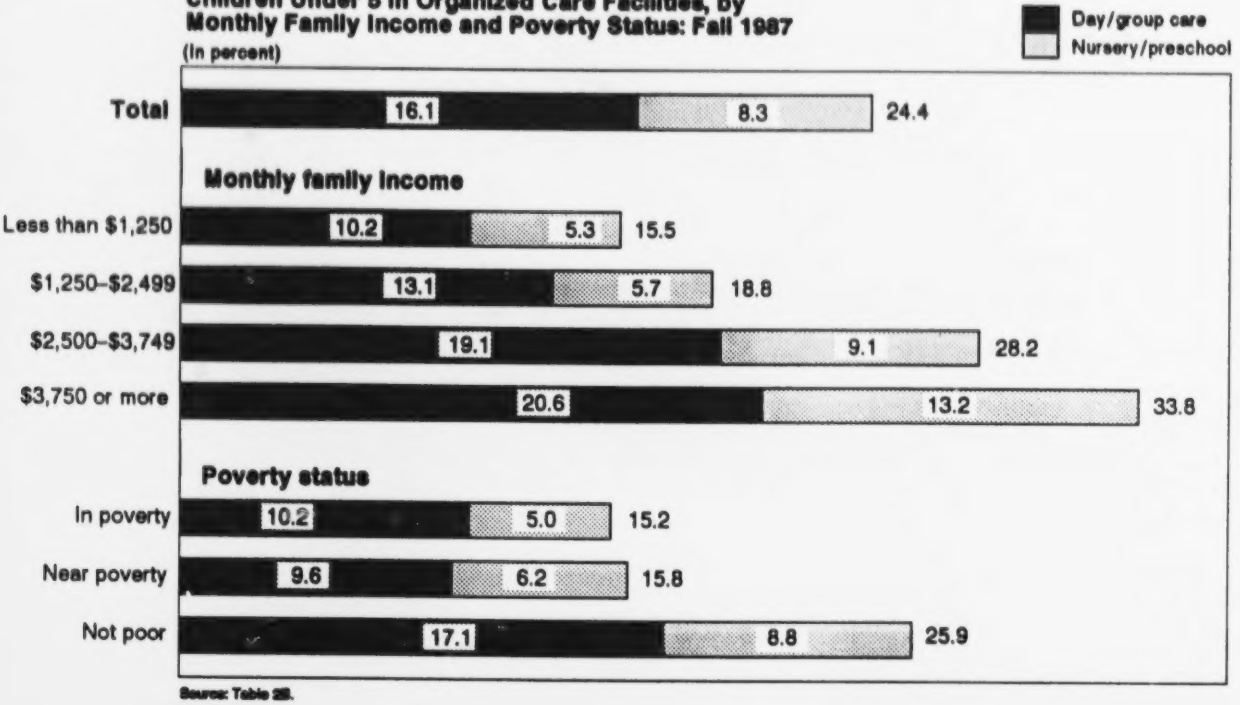
The economic status of the family is also related to the use of organized child care facilities as the primary child care arrangement (table 2B). Figure 2 shows that children of employed mothers whose family income exceeded $3,750 per month (over $45,000 per year) were twice as likely to be using organized child care facilities (34 percent) as were children living in families with monthly incomes less than $1,250 per month (less than $15,000 per year). For all of the income groups shown in figure 2, day/group care services for preschoolers were used twice as often as nursery/preschool arrangements.

Also shown in figure 2 is the utilization of organized child care facilities by the poverty status of the children's families.[6] For children living in families in poverty or in families near the poverty level (up to 125 percent of poverty), approximately 15 percent used organized child care facilities as the primary child care arrangement while their mothers were at work. For children living in families categorized as "not poor" (125 percent of the poverty level and over), about one-quarter of the children used organized child care facilities. For this latter group of children, about twice as many used day/group care centers as nursery/preschools.

What are the other differences in the types of arrangements used by families in different economic groups? Children living in poverty in fall 1987 depended more on care in their own home provided by grandparents and other relatives than did children who were not poor (table 2B). On the other hand, children living in families which were not poor, in addition to their greater utilization of organized child care facilities, also relied more on care in another home by nonrelatives (23 percent) than did children living in poverty (15 percent).

[6]The average monthly poverty cutoff in the fall of 1987 for all families in the SIPP with children under age 15 was estimated at $900.

Figure 2.
Children Under 5 in Organized Care Facilities, by Monthly Family Income and Poverty Status: Fall 1987
(In percent)



Source: Table 2B.

Large differences in the use of organized child care facilities are also noted by the educational attainment level of the mother (table 2B). Children whose mothers had completed at least one year of college used organized child care facilities twice as often (29 percent) as did children whose mothers failed to complete high school (15 percent). These variations in child care arrangements undoubtedly reflect the financial abilities of the families in different educational categories.

SECONDARY CHILD CARE ARRANGEMENTS

About 8 million children (28 percent of children under 15) of employed mothers used a secondary child care arrangement in fall 1987 (table 5). (As defined earlier, the secondary child care arrangement refers to the arrangement used second most frequently during a typical work week of the mother.) Secondary child care arrangements were used by 12 percent of preschool-age children and by 35 percent of school-age children 5 to 14 years old. Children 5 years and over attending kindergarten or grade school composed 75 percent of all children who used secondary arrangements while their mothers were at work (6 million children).

The types of secondary child care arrangements used by older children who are in school most of the time their mothers were working are shown in table 6. The most frequently mentioned location of the secondary arrangement in fall 1987 was in the child's home after school (38 percent). This was also true in prior surveys conducted in fall 1986 and winter 1984-85. About one-quarter of the children in fall 1987 using secondary arrangements were cared for in a home other than their own while an additional 10 percent used organized child care facilities. Another 22 percent (1.3 million children) cared for themselves after school while their mothers were working. This proportion has not signficantly changed since the first SIPP survey was conducted in winter 1984-85.

WORK DISRUPTIONS CAUSED BY FAILURES IN CHILD CARE ARRANGEMENTS

Some of the principal factors affecting a family's choice of child care arrangements include the quality and costs of the arrangements, proximity to work and home, and confidence in the ability and availability of the child care provider during the parent's working hours. The last factor is also of concern to the employer since it directly affects the rate of absenteeism resulting from a failure in a child care arrangement.

Data in table F provide estimates of child-care-related disruptions in the regular work schedule of employed parents. Employed women were asked about the time they or their husbands lost during the reference month because the person who usually cared for their child (or children) was not available. This question was asked of women who had any of their three youngest children under 15 years of age cared for either by a grandparent or another relative (excluding the child's parents or siblings), a nonrelative, or at a day/group care center or nursery/preschool.

Of the 9 million women using any of the above arrangements in the fall of 1987, 7 percent reported losing some time from work in the last month as a result of a failure in a child care arrangement (table F). Data from a prior SIPP survey in winter 1984-85 (December 1984 to March 1985) [7] indicated that 5.9 percent of women reported losing time from work, a figure not statistically different from the 1987 estimate.

Estimates of child care related work disruptions for women who have only one child and who use only one type of child care arrangement while at work are also shown in table F. Work disruptions from failures in child care arrangements in fall 1987 affected 5.9 percent of these 3 million employed women with only one child under 15 years old. Women with infants and 1- and 2-year-olds generally experienced more work disruptions than women with grade-school-age children.

In addition women who placed their children in someone else's home while at work experienced more work disruptions than women using day/group care centers. Child care in someone else's home may be more susceptible to personal emergencies or weather-related disruptions that result in higher rates of failures in child care arrangements than day care facilities where more staff are available on a daily basis.

Among women with only one child, higher rates of failures in child care arrangements are also noted among women with 1 or more years of college than among women with less than a high school education, and among women with monthly family incomes between $2,500 and $3,749 per month (about $30,000-$45,000 per year) than among women in families with monthly incomes between $1,250 and $2,499 (approximately $15,000-$30,000 per year).

COST OF CHILD CARE ARRANGEMENTS

Overview. Weekly expenses for child care arrangements shown in this report refer to all of the children under 15 years of age of employed women.[8] The question on child care expenses was asked of women if any of their three youngest children under age 15 were cared for by a grandparent or other relative, a nonrelative, or if any children were placed in day/group care centers or in nursery/preschools. Excluded were women

[7] Current Population Reports, Series P-70, No. 9, *op. cit.*, table 2.

[8] Costs were also asked of women enrolled in school and male guardians of children. The amounts for these groups are very small relative to the total expenses for child care by families where the mother is employed.

Table F. **Employed Women Losing Time from Work During the Last Month Because of Failures in Child Care Arrrangements: Fall 1987**

(Numbers in thousands)

Characteristic	All mothers		Mothers with one child	
	Number employed[1]	Percent losing time	Number employed[1]	Percent losing time
Total	8,957	7.0	2,994	5.9
Marital status:				
Married, spouse present	6,426	7.3	2,097	6.1
All other marital statuses[2]	2,531	6.2	897	5.6
Age of youngest child:				
Less than 1 year	1,097	7.0	410	7.4
1 and 2 years	2,782	10.3	1,227	8.4
3 and 4 years	2,305	6.0	910	4.2
5 to 14 years	2,772	4.6	446	1.3
Place of primary care:				
In child's home	(X)	(X)	483	4.8
In another home	(X)	(X)	1,492	7.9
Day/groups care center	(X)	(X)	782	2.6
Nursery school/preschool	(X)	(X)	237	6.8
Employment status:				
Full time	6,578	6.5	2,259	6.2
Part time	2,379	8.4	735	5.2
Occupation:				
Managerial-professional	2,321	7.9	694	7.0
Technical, sales, and administrative support	3,881	6.8	1,437	5.9
Service workers	1,479	5.7	505	5.0
Operators, fabricators, and laborers	943	6.9	260	7.0
Educational attainment:				
Less than high school	1,098	4.1	387	2.7
High school	3,657	6.4	1,154	5.5
College, 1 or more years	4,202	8.3	1,453	7.1
Monthly family income:				
Less than $1,250	1,357	5.6	481	4.6
$1,250 to $2,499	2,835	6.2	891	3.5
$2,500 to $3,749	2,448	9.4	853	8.3
$3,750 and over	2,317	6.4	768	6.9
Poverty level:				
Below poverty level	697	6.6	199	(B)
Near poverty level[3]	427	5.4	86	(B)
Not poor[4]	7,832	7.1	2,710	6.0

X Not applicable.
B Base less than 75,000.
[1]Universe consists of employed mothers who used any of the following arrangements for any of their three youngest children under 15 years of age: care by a grandparent or other relative (excluding their child's parents or siblings), a nonrelative, a day/group care center or nursery/preschool.
[2]Includes married, husband absent (including separated), widowed, divorced, and never-married women.
[3]100 up to 125 percent poverty level.
[4]125 percent and over of poverty level.

who used only family members (i.e., child's father or siblings) or only kindergartens/grade schools, or if the child cared for himself or herself. Therefore, cash transfers to family members or payments for schooling were not included in child care costs.

Of the 18.5 million employed women with children under 15 years old in fall 1987, 33 percent (6.2 million) reported that they made a cash payment for child care services for at least one of their children (table 7-B). Average child care costs of $49 per week per family were paid by the families of 6.2 million employed women who reported such payments, amounting to an estimated annual expenditure of 15.5 billion dollars. The average monthly family income of women who paid for child care services was about $3,200. These payments represented 7 percent of their income.

Child care costs estimated from three SIPP surveys conducted in winter 1984-85, fall 1986, and fall 1987 are shown in table G. Since the first survey in winter 1984-85, child care costs have increased by $8.2 per week. However, $3.6 of this increase was the result of inflation.

Table G. **Weekly Cost of Child Care: Selected Periods, 1984-87**

Period	Current dollars		Constant 1987 dollars	
	Mean	Standard error	Mean	Standard error
Fall 1987	$48.5	1.8	$48.5	1.8
Fall 1986	$44.3	1.4	$46.3	1.5
Winter 1984-85	$40.3	1.1	$43.9	1.2

Note: Constant dollars were derived using the consumer price index for all urban consumers for the specified periods. Consumer price indices are from the Monthly Labor Review, the June issues of 1986, 1987, and 1988, table 30 of each issue.

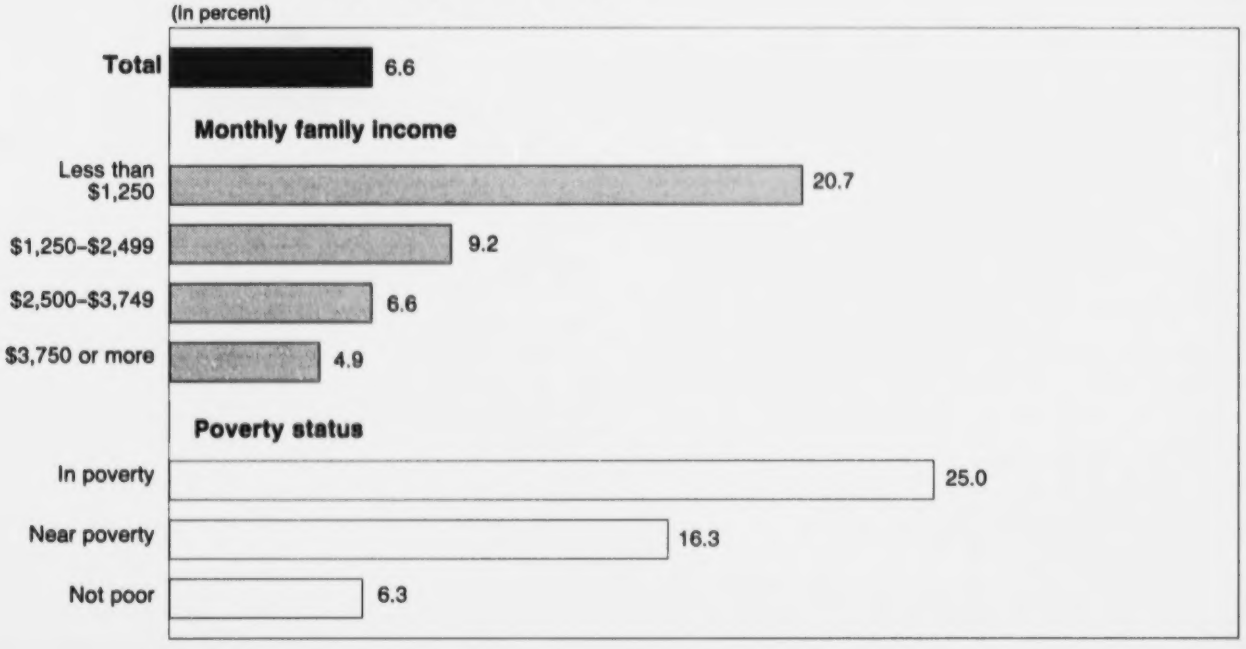
Age of children. Differences in weekly child care costs are shown in table 7B for women with selected characteristics for fall 1987. A higher percentage (between 53 and 59 percent) of women with preschool age children (under 5 years old) made cash payments for the care of their children than did women whose youngest child was 5 years old and over (16 percent). Women with preschoolers also paid more per week ($51 to $58) and spent a higher proportion of their monthly family income on child care (7 to 8 percent) than did their counterparts with older children ($35 per week for child care expenses and 4.5 percent of family income on child care).

Among women with children less than 5 years old, those with two or more children paid an average of $22 more per week for child care than did women who had only one child under 5. Families with more than one preschool-age child also spent a larger portion of their monthly family income on child care (10 percent) than did families with only one child under 5 in the household (7 percent).

Poverty and income status. About 8 percent of employed women (1.4 million) with children under 15 years old were living in poverty in fall 1987 (table 7B). About one-fourth of them reported making a cash payment for child care services, compared with one-third of women classified as not poor. Women in poverty paid an average of $35 per week while women who were living in households that were not poor paid an average of $50 per week. However, among women making child care payments, those in poverty spent a considerably higher portion of their monthly family income on child care, 25 percent, compared with 6 percent among women living in families that were not poor (figure 3). The estimated average monthly family income of the women in the survey in the fall of 1987 who were living in poverty and paying for child care was $610 per month.

Women living in families with low monthly incomes are also spending a major portion of their income on child care. Among women making child care payments, those in families whose monthly income was less than $1,250 per month spent 21 percent of their income on child care (table 7B). At the other end of the income scale ($3,750 and over per month), only 5 percent of

Figure 3.
Monthly Family Income Spent on Child Care, by Income and Poverty Status: Fall 1987



Source: Table 7B

family income was spent on child care services. These disparities in child care expenditures illustrate the concerns that Congress has recently debated over legislation related to taxpayer and family assistance for child care.[9]

Regional differences. Table 7B shows that child care costs were about $14 per week higher in the Northeast ($57) than in the South ($43). (As shown in table 7A, this pattern was also found in the fall of 1986). Monthly family income in the Northeast in fall 1987 for families making child care payments was about $3,510 per month compared to $2,821 per month for families in the South. Despite these income differences, families in both regions reported that child care expenditures made up about 7 percent of their monthly family income.

Comparison of SIPP and Internal Revenue Service estimates. The Internal Revenue Service (IRS) in 1986 and 1987 approved child care costs as tax credits for dependent children under 15 years of age of taxpayers while they were working. Qualifying expenses included those services performed within the home by nondependent babysitters, maids, or cooks. Expenditures for child care related services outside of the child's home also qualified for the child care credit.

The maximum amount of these expenses to which the credit could be applied was the lesser of earned income or $2,400 for one qualifying child and the lesser of earned income or $4,800 for more than one child. The credit varied between 30 percent of these expenses for taxpayers with a adjusted gross income of $10,000 or less and 20 percent for taxpayers with an adjusted gross income of $28,000 or more. The amount of the credit which could be claimed was limited to income tax before credits—any excess was not refundable.

The latest available information for tax year 1986 from the IRS indicates that 3.4 billion dollars of tax credits were filed on 8.9 million individual tax returns.[10] Comparative data from the SIPP for fall 1986 show that 5.7 million women who were employed at the time of the survey and who had at least one child under 15 years old paid an estimated 13.2 billion dollars for child care arrangements in 1986 (table 7A). If one were to assume that the IRS tax credits represented about 25 percent of the actual child care costs made by taxpayers, then approximately 13.6 billion dollars of child care expenditures would be estimated to have been spent in tax year 1986.[11]

The estimated number of persons paying for child care derived from the SIPP is smaller than the estimated number reported by the IRS. SIPP estimates shown in table 7A for 1986 only include women who were working during the survey reference period, while the IRS estimates for 1986 were based on all taxpayer claims (including those of male guardians) for dependent child care credits by parents who may have worked, been enrolled in school, or were looking for a job at any time during the calendar year. If the SIPP estimates are adjusted to include data for women enrolled in school and for male guardians employed or enrolled in school and paying for child care, an additional 233,000 persons would be added to the SIPP estimate for 1986. This would increase annual child care expenditures estimated from the SIPP from 13.2 to 13.7 billion dollars.

NOTE ON ESTIMATES

Estimates of primary and secondary child care arrangements shown in this report are based on respondents' answers to the question of what their child was usually doing during the time that they were at work or enrolled in school. The estimates of the number of children being left unsupervised by an adult during this period may be underestimated by those respondents who perceive that leaving the child unattended may be interpreted as a undesirable response. In some cases, parents—out of concern for their child's safety—may be unwilling to reveal their child's whereabouts when asked about this subject. The misreporting of any specific child care arrangement may affect the overall distribution of child care arrangements shown in this report. In all cases, the interviewer accepted the respondent's answers and did not question the validity of the response.

[9] Committee on Finance, U.S. Senate, "Federal Role in Child Care," Hearing Before the Committee on Finance, United States Senate, September 22, 1988. U.S. Government Printing Office: Washington, DC, 1989.

[10] Internal Revenue Service, "Individual Income Tax Returns," Statistics of the Income Division of the Internal Revenue Service, Publication No. 1304, (Revision of July, 1989), table 1.4.

[11] The IRS allows taxpayers to claim between 20 and 30 percent of child care costs spent. If one-quarter of costs were claimed, then the 3.4 billion dollars in claims for 1986 multiplied by 4 would yield 13.6 billion dollars in expenditures.

Table 1. **Primary Child Care Arrangements Used by Employed Mothers for Children Under 15, by Marital and Employment Status of Mothers**

Part A. Fall 1986

(Numbers in thousands. For meaning of symbols, see text)

Age of child and type of arrangement	All mothers with children			Mothers with children under 5 years			Mothers with children 5 to 14 years		
	Total	Employed full time	Employed part time	Total	Employed full time	Employed part time	Total	Employed full time	Employed part time
ALL MARITAL STATUSES									
Children of employed mothers	28,541	18,223	10,318	8,849	5,546	3,303	19,692	12,678	7,015
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Care in child's home	18.0	15.2	23.1	28.7	25.3	34.6	13.2	10.8	17.6
By father	9.5	6.5	14.7	14.5	10.7	21.1	7.2	4.6	11.8
By grandparent	2.4	2.4	2.6	5.2	5.1	5.4	1.2	1.2	1.2
By other relative	3.5	3.8	3.1	3.4	3.7	3.0	3.6	3.8	3.2
By nonrelative	2.6	2.6	2.6	5.5	5.8	5.1	1.3	1.2	1.5
Care in another home	16.4	17.3	14.8	40.7	43.7	35.7	5.5	5.7	5.0
By grandparent	4.4	4.7	3.8	10.2	11.1	8.7	1.7	1.8	1.5
By other relative	2.8	3.1	2.2	6.5	7.1	5.6	1.1	1.3	0.7
By nonrelative	9.3	9.6	8.8	24.0	25.6	21.4	2.7	2.6	2.8
Organized child care facilities	8.8	10.1	6.5	22.4	26.0	16.2	2.7	3.1	2.0
Day/group care center	5.8	6.9	3.9	14.9	17.6	10.3	1.7	2.2	1.0
Nursery school/preschool	3.0	3.2	2.6	7.5	8.4	5.9	1.0	0.9	1.0
Kindergarten/grade school	49.0	51.3	45.0	0.8	1.0	0.4	70.6	73.2	65.9
Child cares for self	3.3	3.6	2.8	-	-	-	4.8	5.1	4.1
Mother cares for child at work[1]	4.5	2.6	7.8	7.4	4.0	13.0	3.2	2.0	5.4
MARRIED, HUSBAND PRESENT									
Children of employed mothers	22,205	13,757	8,448	7,029	4,358	2,671	15,176	9,399	5,776
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Care in child's home	19.0	15.5	24.8	29.7	25.8	36.0	14.1	10.7	19.6
By father	11.9	8.4	17.6	17.9	13.4	25.3	9.1	6.1	14.1
By grandparent	1.7	1.6	1.9	3.5	3.5	3.6	0.9	0.7	1.2
By other relative	2.9	3.0	2.7	2.7	3.2	1.8	3.0	3.0	3.1
By nonrelative	2.4	2.4	2.5	5.6	5.7	5.3	1.0	0.8	1.3
Care in another home	15.8	17.1	13.7	41.2	44.6	35.5	4.1	4.3	3.7
By grandparent	4.1	4.8	3.1	10.6	12.2	8.1	1.1	1.4	0.8
By other relative	2.4	2.8	1.7	6.1	6.9	4.8	0.6	0.9	0.2
By nonrelative	9.3	9.5	9.0	24.4	25.5	22.7	2.3	2.1	2.7
Organized child care facilities	8.2	9.7	5.9	20.3	24.1	14.2	2.7	3.0	2.0
Day/group care center	5.2	6.5	3.1	12.8	15.9	7.8	1.7	2.1	0.9
Nursery school/preschool	3.0	3.2	2.8	7.5	8.2	6.4	1.0	0.9	1.1
Kindergarten/grade school	49.6	52.3	45.1	0.5	0.5	0.5	72.3	76.3	65.7
Child cares for self	2.5	2.5	2.5	-	-	-	3.6	3.6	3.7
Mother cares for child at work[1]	4.9	3.0	8.0	8.3	4.9	13.8	3.3	2.1	5.4
ALL OTHER MARITAL STATUSES[2]									
Children of employed mothers	6,337	4,467	1,870	1,820	1,188	632	4,516	3,278	1,238
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Care in child's home	14.7	14.4	15.5	25.1	23.1	28.8	10.5	11.2	8.7
By father	0.8	0.4	1.7	1.4	0.5	3.1	0.5	0.3	1.0
By grandparent	4.9	4.7	5.5	11.7	10.8	13.3	2.2	2.4	1.5
By other relative	5.8	6.0	5.3	6.5	5.5	8.2	5.5	6.2	3.8
By nonrelative	3.2	3.3	3.0	5.5	6.2	4.1	2.3	2.2	2.4
Care in another home	18.5	17.9	19.9	39.0	40.3	36.6	10.2	9.8	11.3
By grandparent	5.1	4.2	7.1	8.6	7.2	11.2	3.7	3.2	5.0
By other relative	4.1	3.8	5.1	8.0	7.4	9.2	2.5	2.4	3.0
By nonrelative	9.2	9.9	7.7	22.4	25.6	16.2	3.9	4.2	3.3
Organized child care facilities	10.8	11.4	9.4	30.2	33.0	24.7	3.0	3.5	1.5
Day/group care center	8.1	8.2	7.8	23.0	24.0	21.0	2.0	2.4	1.0
Nursery school/preschool	2.7	3.2	1.6	7.2	9.0	3.7	1.0	1.1	0.5
Kindergarten/grade school	47.0	48.0	44.5	1.9	3.0	-	65.2	64.4	67.2
Child cares for self	6.1	7.0	3.9	-	-	-	8.5	9.5	6.0
Mother cares for child at work[1]	3.0	1.4	6.9	3.8	0.6	9.9	2.7	1.6	5.3

[1]Includes women working at home or away from home.
[2]Includes married, husband absent (including separated), widowed, divorced, and never-married women.

Table 1. **Primary Child Care Arrangements Used by Employed Mothers for Children Under 15, by Marital and Employment Status of Mothers**—Continued

Part B. Fall 1987

(Numbers in thousands. For meaning of symbols, see text)

Age of child and type of arrangement	All mothers with children			Mothers with children under 5 years			Mothers with children 5 to 14 years		
	Total	Employed full time	Employed part time	Total	Employed full time	Employed part time	Total	Employed full time	Employed part time
ALL MARITAL STATUSES									
Children of employed mothers	28,842	18,620	10,222	9,124	5,677	3,447	19,718	12,943	6,775
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Care in child's home	18.7	16.0	23.6	29.9	24.2	39.2	13.5	12.5	15.6
By father	9.4	6.1	15.4	15.3	9.7	24.5	6.7	4.5	10.9
By grandparent	2.6	2.9	2.1	5.1	5.5	4.4	1.5	1.8	0.9
By other relative	3.8	4.1	3.1	3.3	2.9	3.9	4.0	4.7	2.7
By nonrelative	2.9	2.9	3.0	6.2	6.1	6.4	1.4	1.5	1.2
Care in another home	14.9	15.8	13.5	35.6	38.9	30.2	5.4	5.6	4.9
By grandparent	4.1	4.2	3.9	8.7	8.8	8.5	1.9	2.2	1.5
By other relative	2.3	2.2	2.3	4.6	5.0	4.1	1.1	1.2	1.4
By nonrelative	8.6	9.3	7.3	22.3	25.0	17.6	2.3	2.4	2.1
Organized child care facilities	9.3	10.5	7.2	24.4	28.4	17.6	2.3	2.6	1.9
Day/group care center	6.3	7.3	4.4	16.1	19.2	10.9	1.7	2.1	1.1
Nursery school/preschool	3.0	3.2	2.8	8.3	9.2	6.7	0.6	0.5	0.8
Kindergarten/grade school	48.9	50.6	45.8	1.0	1.4	0.4	71.1	72.2	69.0
Child cares for self	2.9	3.6	1.6	0.3	0.4	-	4.1	5.0	2.4
Mother cares for child at work[1]	5.3	3.6	8.4	8.9	6.7	12.6	3.6	2.2	6.3
MARRIED, HUSBAND PRESENT									
Children of employed mothers	22,383	13,666	8,717	7,474	4,507	2,967	14,910	9,160	5,750
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0 1	00.0
Care in child's home	19.3	16.3	24.0	30.0	24.2	38.9	14.0	12.5	16.4
By father	11.9	8.2	17.6	18.2	11.8	27.8	8.7	6.4	12.4
By grandparent	1.9	2.1	1.5	3.7	3.9	3.4	1.0	1.3	0.6
By other relative	2.8	3.1	2.4	2.2	2.2	2.3	3.1	3.5	2.5
By nonrelative	2.8	2.9	2.4	6.0	6.3	5.5	1.1	1.3	0.9
Care in another home	14.7	15.9	12.9	35.4	38.6	30.6	4.4	4.8	3.7
By grandparent	3.7	3.9	3.5	8.5	8.4	8.7	1.4	1.7	0.8
By other relative	2.2	2.2	2.2	4.7	4.8	4.4	1.1	1.0	1.1
By nonrelative	8.7	9.7	7.1	22.2	25.3	17.6	1.9	2.1	1.8
Organized child care facilities	9.4	11.0	6.9	23.4	28.1	16.5	2.4	2.7	2.0
Day/group care center	6.3	7.8	4.0	15.4	19.3	9.6	1.8	2.2	1.1
Nursery school/preschool	3.1	3.2	2.9	8.0	8.8	6.9	0.6	0.5	0.9
Kindergarten/grade school	48.2	49.6	46.0	0.9	1.3	0.3	71.9	73.4	69.5
Child cares for self	2.2	2.8	1.4	0.1	0.1	-	3.3	4.1	2.1
Mother cares for child at work[1]	6.1	4.3	8.8	10.1	7.8	13.7	4.0	2.6	6.3
ALL OTHER MARITAL STATUSES[2]									
Children of employed mothers	6,459	4,954	1,505	1,650	1,171	480	4,808	3,783	1,026
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Care in child's home	16.5	15.3	20.8	29.2	24.3	41.2	12.2	12.4	11.3
By father	1.0	0.5	2.9	2.3	1.6	4.1	0.6	0.1	2.3
By grandparent	5.0	5.0	5.0	11.3	11.5	10.6	2.8	3.0	2.3
By other relative	7.1	7.1	7.1	8.1	5.7	13.8	6.8	7.5	3.9
By nonrelative	3.4	2.7	5.9	7.6	5.6	12.5	2.0	1.8	2.8
Care in another home	15.6	15.3	16.9	36.5	40.1	27.7	8.5	7.6	11.8
By grandparent	5.2	5.0	5.9	9.5	10.4	7.3	3.8	3.4	5.3
By other relative	2.2	2.2	2.5	4.7	5.8	2.2	1.4	1.1	2.7
By nonrelative	8.1	8.1	8.3	22.3	24.0	18.2	3.3	3.1	3.7
Organized child care facilities	8.9	8.9	8.6	28.3	29.7	24.8	2.1	2.4	1.0
Day/group care center	6.1	5.8	6.8	18.9	18.8	19.2	1.6	1.8	1.0
Nursery school/preschool	2.8	3.1	1.8	9.4	10.9	5.6	0.5	0.6	-
Kindergarten/grade school	51.4	53.3	45.2	1.4	1.7	0.6	68.5	69.2	66.1
Child cares for self	5.1	5.9	2.5	1.1	1.6	-	6.4	7.2	3.7
Mother cares for child at work[1]	2.5	1.5	6.0	3.4	2.5	5.8	2.2	1.1	6.1

[1]Includes women working at home or away from home.

[2]Includes married, husband absent (including separated), widowed, divorced, and never-married women.

Table 2. Primary Child Care Arrangements Used by Employed Mothers for Children Under 5, by Characteristics of the Mothers

Part A. Fall 1986

(Numbers in thousands. For meaning of symbols, see text)

Characteristic	Number of children	Percent	Type of primary child care arrangement											
			Care in child's home by—				Care in another home by—			Day/ group care center	Nursery/ pre-school	Kinder-garten/ grade school	Child cares for self	Mother cares for child[1]
			Father	Grand-parent	Other relative	Non-relative	Grand-parent	Other relative	Non-relative					
Total	8,849	100.0	14.5	5.2	3.4	5.5	10.2	6.5	24.0	14.9	7.5	0.8	-	7.4
Race and Hispanic origin:														
White	7,318	100.0	15.3	4.4	3.1	5.8	10.4	5.5	24.4	14.8	7.1	0.7	-	8.4
Black	1,218	100.0	7.8	9.4	6.2	1.5	10.0	11.2	23.1	18.3	8.6	1.6	-	2.2
Hispanic	808	100.0	5.8	3.5	8.4	8.3	16.5	10.2	20.4	15.5	6.1	0.5	-	4.8
Not Hispanic	8,041	100.0	15.4	5.4	2.9	5.3	9.6	6.2	24.4	14.8	7.6	0.8	-	7.6
Marital status:														
Married, spouse present	7,029	100.0	17.9	3.5	2.7	5.6	10.6	6.1	24.4	12.8	7.5	0.5	-	8.3
All other marital statuses[2]	1,820	100.0	1.4	11.7	6.5	5.5	8.6	8.0	22.4	23.0	7.2	1.9	-	3.8
Age of child:														
Less than 1 year	1,430	100.0	16.7	6.6	3.3	6.2	10.9	8.6	28.3	8.0	2.3	-	-	8.6
1 and 2 years	3,706	100.0	14.5	5.2	3.3	6.4	10.8	6.9	29.1	12.9	4.1	-	-	6.8
3 and 4 years	3,713	100.0	13.8	4.8	3.6	4.4	9.3	5.3	17.3	19.5	12.6	1.9	-	7.5
Employment status:														
Part time	3,303	100.0	21.1	5.4	3.0	5.1	8.7	5.6	21.4	10.3	5.9	0.4	-	13.0
Full time	5,546	100.0	10.7	5.1	3.7	5.8	11.1	7.1	25.6	17.6	8.4	1.0	-	4.0
Occupation:[3]														
Managerial-professional	2,057	100.0	12.4	3.0	1.2	9.9	6.8	6.1	30.5	16.5	8.6	1.0	-	4.0
Technical, sales, and administrative support	3,670	100.0	12.6	6.8	2.9	3.8	11.5	6.5	24.6	16.9	8.8	0.6	-	5.1
Service workers	1,783	100.0	20.1	4.8	3.4	3.6	11.8	6.5	16.2	12.1	4.6	0.6	-	16.4
Farming, forestry, and fishing	131	100.0	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)
Precision production, craft, and repair	225	100.0	3.8	2.4	18.8	10.6	4.2	-	26.5	17.6	-	4.5	-	11.6
Operators, fabricators, and laborers	932	100.0	18.6	5.3	6.0	5.3	9.7	9.6	24.2	10.1	7.2	0.9	-	3.1
Monthly family income:														
Less than $1,250	1,418	100.0	11.0	4.2	5.7	6.1	12.8	9.1	15.6	18.2	5.9	1.0	-	10.6
$1,250 to $2,499	3,149	100.0	18.0	5.8	3.4	2.8	11.7	8.0	22.0	13.1	6.7	0.6	-	7.9
$2,500 to $3,749	2,329	100.0	15.8	3.9	3.9	4.9	10.5	4.9	28.1	12.7	8.1	1.1	-	5.9
$3,750 and over	1,953	100.0	10.1	6.6	1.2	10.4	5.6	4.1	28.4	18.0	9.1	0.7	-	5.8
Poverty level:														
Below poverty level	839	100.0	15.2	6.9	5.5	6.8	15.7	9.0	7.1	13.1	6.1	1.7	-	12.9
Near poverty level[4]	381	100.0	10.7	4.7	8.0	5.9	12.3	7.9	22.5	19.0	3.5	-	-	5.5
Not poor[5]	7,629	100.0	14.7	5.1	3.0	5.4	9.5	6.1	25.9	14.9	7.8	0.7	-	6.8
Region of residence:														
Northeast	1,531	100.0	22.1	5.6	3.2	5.7	10.0	6.4	18.9	13.2	8.0	1.3	-	5.7
Midwest	2,498	100.0	17.2	5.1	3.7	3.9	9.6	6.5	31.4	12.5	3.3	-	-	6.7
South	2,897	100.0	9.6	6.0	3.0	4.8	13.3	7.5	19.6	18.4	10.1	1.5	-	6.1
West	1,923	100.0	12.6	3.8	4.0	8.7	6.4	5.1	25.0	14.1	8.4	0.5	-	11.4
Educational attainment:														
Less than high school	1,034	100.0	11.8	6.9	7.1	4.4	15.8	12.4	17.4	13.8	3.6	0.5	-	6.3
High school	4,003	100.0	15.1	6.5	3.2	3.7	11.5	7.2	22.0	14.1	8.5	0.9	-	7.3
College, 1 or more years	3,812	100.0	14.6	3.4	2.7	7.8	7.3	4.2	28.0	16.1	7.4	0.9	-	7.7

[1]Includes women working at home or away from home.
[2]Includes married, husband absent (including separated), widowed, divorced, and never-married women.
[3]Excludes women in the Armed Forces.
[4]100 up to 125 percent of poverty level.
[5]125 and over percent of poverty level.

Table 2. **Primary Child Care Arrangements Used by Employed Mothers for Children Under 5, by Characteristics of the Mothers**—Continued

Part B. Fall 1987

(Numbers in thousands. For meaning of symbols, see text)

Characteristic	Number of children	Percent	Type of primary child care arrangement											
			Care in child's home by—				Care in another home by—			Day/ group care center	Nursery/ pre-school	Kinder-garten/ grade school	Child cares for self	Mother cares for child[1]
			Father	Grand-parent	Other relative	Non-relative	Grand-parent	Other relative	Non-relative					
Total	9,124	100.0	16.3	5.1	3.3	6.2	8.7	4.6	22.3	16.1	8.3	1.0	0.3	8.9
Race and Hispanic origin:														
White	7,543	100.0	16.7	3.6	2.2	6.2	8.4	4.2	22.9	16.7	8.0	0.6	0.2	10.2
Black	1,311	100.0	6.8	10.2	9.1	6.6	11.2	7.2	16.7	13.9	10.9	2.7	0.7	2.0
Hispanic	874	100.0	12.8	5.1	5.4	11.7	13.4	6.7	19.1	13.4	7.2	-	-	5.2
Not Hispanic	8,250	100.0	15.6	5.1	3.0	5.7	8.2	4.5	22.6	16.3	8.4	1.1	0.3	9.3
Marital status:														
Married, spouse present	7,474	100.0	16.2	3.7	2.2	6.0	8.5	4.7	22.2	15.4	8.0	0.9	0.1	10.1
All other marital statuses[2]	1,650	100.0	2.3	11.3	8.1	7.6	9.5	4.7	22.3	18.9	9.4	1.4	1.1	3.4
Age of child:														
Less than 1 year	1,485	100.0	15.6	5.5	1.8	8.3	8.8	6.3	23.3	11.8	2.3	-	0.4	16.0
1 and 2 years	3,771	100.0	15.8	5.3	5.0	6.6	8.3	6.0	27.0	14.5	3.6	-	0.2	7.6
3 and 4 years	3,868	100.0	14.7	4.7	2.2	5.1	9.0	2.7	17.2	19.2	15.1	2.3	0.2	7.5
Employment status:														
Part time	1,447	100.0	24.5	4.4	3.9	6.4	8.5	4.1	17.6	10.9	6.7	0.4	-	12.6
Full time	5,677	100.0	9.7	5.5	2.9	6.1	8.8	5.0	25.0	19.2	9.2	1.4	0.4	6.7
Occupation:[3]														
Managerial-professional	2,264	100.0	13.1	2.5	1.8	8.3	4.9	3.1	27.9	19.5	9.4	1.0	0.4	8.0
Technical, sales, and administrative support	3,768	100.0	13.7	6.4	2.1	6.0	10.0	5.2	21.9	18.3	9.4	0.7	0.1	6.2
Service	1,841	100.0	21.0	3.9	6.5	3.7	8.3	5.1	16.7	11.5	5.1	0.7	0.7	16.7
Farming, forestry, and fishing	161	100.0	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)
Precision production, craft, and repair	174	100.0	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)	(B)
Operators, fabricators, and laborers	874	100.0	19.5	7.7	2.7	3.6	14.7	6.9	20.1	10.0	7.9	2.1	-	4.8
Monthly family income:														
Less than $1,250	1,422	100.0	11.7	6.9	7.0	7.0	13.8	4.2	22.9	10.2	5.3	0.4	-	10.6
$1,250 to $2,499	3,074	100.0	19.6	4.8	1.8	4.6	9.7	7.3	19.1	13.1	5.7	1.1	0.8	12.4
$2,500 to $3,749	2,566	100.0	17.0	4.3	3.3	5.9	6.0	3.2	24.6	19.1	9.1	1.0	-	6.5
$3,750 and over	2,061	100.0	9.1	5.2	2.8	8.7	7.1	3.1	23.5	20.6	13.2	1.2	-	5.6
Poverty level:														
Below poverty level	846	100.0	13.1	10.0	8.9	9.0	11.2	5.1	15.0	10.2	5.0	0.7	-	11.8
Near poverty level[4]	488	100.0	15.2	6.8	3.5	10.4	13.7	2.2	23.5	9.6	6.2	-	-	8.8
Not poor[5]	7,790	100.0	15.5	4.4	2.6	5.7	8.1	4.8	23.0	17.1	8.8	1.1	0.3	8.6
Region of residence:														
Northeast	1,693	100.0	20.0	6.9	4.7	7.0	6.4	2.5	21.1	9.2	10.0	1.8	1.1	9.4
Midwest	2,559	100.0	19.4	3.6	3.1	4.5	7.5	4.5	29.7	14.6	4.2	0.2	-	8.7
South	2,913	100.0	10.3	6.1	3.2	4.8	12.7	6.1	16.1	19.2	10.3	1.3	0.2	7.9
West	1,960	100.0	13.2	4.0	2.4	10.1	6.3	4.8	19.8	19.2	9.1	0.9	-	10.3
Educational attainment:														
Less than high school	1,214	100.0	14.9	10.2	7.3	8.4	10.7	10.7	15.2	10.5	4.3	1.4	0.5	6.0
High school	3,631	100.0	17.9	5.7	3.1	4.7	10.1	4.1	21.2	15.0	7.2	0.9	0.2	9.7
College, 1 or more years	4,279	100.0	13.2	3.1	2.2	6.9	6.9	3.4	25.1	18.5	10.3	1.0	0.2	9.1

[1] Includes women working at home or away from home.
[2] Includes married, husband absent (including separated), widowed, divorced, and never-married women.
[3] Excludes women in the Armed Forces.
[4] 100 up to 125 percent of poverty level.
[5] Over 125 and over percent of poverty level.

Table 3. Primary Child Care Arrangements Used by Mothers Enrolled in School for Children Under 15: Fall 1986 and 1987

(Numbers in thousands. For meaning of symbols, see text)

Survey date and age of child	Number of children	Percent	Type of primary child care arrangement											
			Care in child's home by—				Care in another home by—			Day/ group care center	Nursery/ pre-school	Kinder-garten/ grade school	Child cares for self	Mother cares for child[1]
			Father	Grand-parent	Other relative	Non-relative	Grand-parent	Other relative	Non-relative					
FALL 1986														
Total	1,279	100.0	15.7	10.6	6.1	1.5	6.2	3.2	4.8	6.9	2.7	35.5	2.9	4.0
Children under 5	554	100.0	17.9	21.3	8.1	1.0	13.3	4.1	6.9	15.0	5.4	-	-	7.2
Children 5 to 14	726	100.0	14.0	2.5	4.5	1.8	0.8	2.5	3.2	0.8	0.7	62.6	5.1	1.5
FALL 1987														
Total	1,239	100.0	16.7	10.2	2.3	2.1	3.5	4.5	8.3	8.5	3.1	36.0	0.4	4.4
Children under 5	569	100.0	19.6	16.2	0.9	4.7	4.0	6.4	18.2	15.9	4.8	2.1	-	7.4
Children 5 to 14	670	100.0	14.2	5.1	3.4	-	3.1	2.8	-	2.3	1.7	64.7	0.7	1.9

[1]Includes women working at home or away from home.

Table 4. Primary Child Care Arrangements Used by Fathers or Male Guardians Either Employed or Enrolled in School for Children Under 15: Fall 1986 and 1987

(Numbers in thousands. For meaning of symbols, see text)

Survey date and age of child	Number of children	Percent	Type of primary child care arrangement											
			Care in child's home by—				Care in another home by—			Day/ group care center	Nursery/ pre-school	Kinder-garten/ grade school	Child cares for self	Father cares for child[1]
			Mother	Grand-parent	Other rela-tive	Non-rela-tive	Grand-parent	Other rela-tive	Non-rela-tive					
FALL 1986														
Total	1,537	100.0	6.6	0.9	1.1	1.8	3.4	1.7	3.8	13.1	6.0	55.1	5.0	1.6
Children under 5	443	100.0	12.9	1.4	-	3.5	8.1	1.7	9.8	36.0	18.7	5.1	-	2.8
Children 5 to 14	1,094	100.0	4.0	0.6	1.6	1.1	1.5	1.7	1.3	3.8	0.9	75.4	7.0	1.1
FALL 1987														
Total	1,906	100.0	7.9	1.5	2.8	1.4	2.8	0.8	4.3	10.3	3.8	54.8	8.8	3.3
Children under 5	467	100.0	19.4	-	-	3.1	7.1	3.4	15.3	26.5	12.8	5.8	-	7.0
Children 5 to 14	1,439	100.0	4.2	1.9	3.8	0.9	1.5	-	0.8	5.0	0.7	70.5	8.8	2.0

[1]Includes men working at home or away from home.

Table 5. Children Using Secondary Child Care Arrangements, by Age of Child and Type of Primary Child Care Arrangement Used: Selected Periods, 1984-87

(Numbers in thousands. For meaning of symbols, see text)

Age of child and type of primary arrangement	Fall 1987			Fall 1986			Winter 1984-85		
	All children	Using secondary care		All children	Using secondary care		All children	Using secondary care	
		Number	Percent		Number	Percent		Number	Percent
ALL CHILDREN									
Total	28,842	7,938	27.5	28,541	7,231	25.3	26,455	6,867	26.0
Care in child's home	5,397	776	14.4	5,151	679	13.2	4,699	683	14.5
By father	2,719	444	16.3	2,697	414	15.4	2,496	385	15.4
By grandparent	750	86	11.5	698	49	7.0	712	80	11.3
By other relative	1,090	159	14.6	1,011	142	14.0	804	107	13.3
By nonrelative	838	86	10.3	744	73	9.8	687	111	16.2
Care in another home	4,309	627	14.6	4,683	680	14.5	3,801	576	15.2
By grandparent	1,177	141	12.0	1,242	156	12.6	1,138	138	12.1
By other relative	655	48	7.3	787	97	12.3	467	45	9.6
By nonrelative	2,477	438	17.7	2,654	427	16.1	2,196	393	17.9
Organized child care facilites	2,679	412	15.4	2,511	468	18.6	2,411	488	20.2
Day/group care center	1,806	165	9.1	1,663	243	14.6	1,440	216	15.0
Nursery school/preschool	873	247	28.3	848	225	26.5	971	272	28.0
Kindergarten/grade school	14,105	6,023	42.7	13,982	5,313	38.0	13,815	5,048	36.5
Child cares for self	832	40	4.8	937	45	4.8	488	24	4.9
Mother cares for child at work[1]	1,521	59	3.9	1,277	47	3.7	1,245	52	4.2
CHILDREN UNDER 5 YEARS									
Total	9,124	1,080	11.8	8,849	1,100	12.4	8,168	1,073	13.1
Care in child's home	2,726	342	12.5	2,544	380	14.9	2,535	304	12.0
By father	1,395	206	14.8	1,287	264	20.5	1,282	197	15.4
By grandparent	463	33	7.1	462	31	6.7	468	26	5.6
By other relative	298	43	14.4	304	45	14.8	306	25	8.2
By nonrelative	570	60	10.5	491	40	8.1	479	56	11.7
Care in another home	3,250	349	10.7	3,603	397	11.0	3,019	385	12.7
By grandparent	792	54	6.8	902	75	8.3	833	93	11.2
By other relative	427	19	4.5	576	57	9.9	367	34	9.2
By nonrelative	2,030	276	13.6	2,125	265	12.5	1,819	258	14.2
Organized child care facilites	2,220	320	14.4	1,980	289	14.6	1,888	357	18.9
Day/group care center	1,465	114	7.8	1,319	129	9.8	1,142	156	13.7
Nursery school/preschool	755	206	27.3	661	160	24.2	746	201	26.9
Kindergarten/grade school	90	25	(B)	72	19	(B)	62	11	(B)
Child cares for self	24	-	(B)	-	-	(B)	-	-	(B)
Mother cares for child at work[1]	814	43	5.3	651	15	2.3	664	13	2.0
CHILDREN 5 TO 14 YEARS									
Total	19,718	6,857	34.8	19,692	6,132	31.1	18,287	5,794	31.7
Care in child's home	2,671	434	16.2	2,607	299	11.5	2,164	375	17.4
By father	1,324	238	18.0	1,411	150	10.6	1,214	186	15.3
By grandparent	287	53	18.5	236	19	8.1	244	52	21.3
By other relative	792	116	14.6	707	97	13.7	498	81	16.3
by nonrelative	268	27	10.1	253	33	13.0	208	56	27.1
Care in another home	1,059	278	26.3	1,080	283	26.2	782	190	24.3
By grandparent	384	86	22.4	339	81	23.9	305	45	14.9
By other relative	228	29	12.7	211	39	18.5	100	10	(B)
By nonrelative	447	162	36.2	529	162	30.6	377	135	35.7
Organized child care facilites	459	91	19.8	532	178	33.5	523	129	24.7
Day/group care center	341	50	14.7	344	114	33.1	298	58	19.5
Nursery school/preschool	118	41	-	188	64	(B)	225	71	31.4
Kindergarten/grade school	14,014	5,997	42.8	13,910	5,294	38.1	13,753	5,037	36.6
Child cares for self	807	40	5.0	937	45	4.8	488	24	4.9
Mother cares for child at work[1]	707	15	2.1	626	32	5.1	581	39	6.7

[1]Includes women working at home or away from home.

Source: 1984-85 data are from Current Population Reports, Series P-70, No. 9, table F.

Table 6. **Secondary Child Care Arrangements for Children 5 to 14 Who Are in School Most of the Time Their Mothers Are at Work: Selected Periods, 1984-87**

(Numbers in thousands. For meaning of symbols, see text)

Type of arrangement	Fall 1987		Fall 1986		Winter 1984-85	
	Number	Percent	Number	Percent	Number	Percent
Total	5,997	100.0	5,294	100.0	5,037	100.0
Care in child's home	2,263	37.7	2,127	40.2	2,094	41.6
By father	748	12.5	765	14.5	809	16.1
By grandparent	276	4.6	324	6.1	264	5.2
By other relative	969	16.2	789	14.9	832	16.5
By nonrelative	271	4.5	250	4.7	189	3.8
Care in another home	1,499	25.0	1,354	25.6	1,258	25.0
By grandparent	493	8.2	452	8.5	404	8.0
By other relative	264	4.4	236	4.5	209	4.1
By nonrelative	742	12.4	667	12.6	645	12.8
Organized child care facilities	619	10.3	419	7.9	344	6.8
Day/group care center	608	10.1	419	7.9	327	6.5
Nursery school/ preschool	11	0.2	-	-	17	0.3
Kindergarten/ grade school	83	1.4	120	2.3	38	0.8
Child cares for self	1,293	21.6	1,050	19.8	1,006	20.0
Mother cares for child at work[1]	239	4.0	223	4.2	294	5.8

[1]Includes women working at home or away from home.

Source: 1984-85 data are from Current Population Reports, Series P-70, No. 9, table 7.

Table 7. Weekly Child Care Expenditures and Monthly Family Income

Part A. Fall 1986

(Numbers in thousands. For meaning of symbols, see text)

Characteristic	Number of women	No payments made	Payments made		Weekly child care expenses[1]		Monthly family income[2]		Income spent on child care per month[3]	
			Number	Percent	Mean	Standard error	Mean	Standard error	Percent	Standard error
Total	18,305	12,563	5,742	31.4	$44.3	$1.4	$3,025	$114.0	6.3	0.3
Race and Hispanic origin:										
White	15,097	10,298	4,799	31.8	44.9	1.6	3,100	127.3	6.3	0.3
Black	2,650	1,916	734	27.7	36.1	2.6	2,110	168.4	7.4	0.6
Hispanic	1,603	1,008	595	37.1	39.6	3.2	2,418	198.0	7.1	0.6
Not Hispanic	16,702	11,554	5,148	30.8	44.8	1.5	3,095	124.6	6.3	0.3
Marital status:										
Married, spouse present	13,818	9,405	4,414	31.9	46.1	1.7	3,433	135.2	5.8	0.3
All other marital statuses[4]	4,487	3,158	1,329	29.6	38.1	2.1	1,671	129.3	9.9	0.8
Age of youngest child:										
Less than 1 year	1,368	598	770	56.3	49.7	4.0	3,157	460.0	6.8	1.0
1 and 2 years	3,501	1,348	2,153	61.5	51.3	2.7	3,051	153.6	7.3	0.4
3 and 4 years	2,508	1,046	1,462	58.3	43.6	2.3	2,891	169.0	6.5	0.4
5 years old and over	10,928	9,571	1,357	12.4	30.7	2.1	3,054	269.1	4.4	0.4
Number of children:										
One child	9,505	6,807	2,698	28.4	39.9	1.7	3,020	171.7	5.7	0.3
Two or more children	8,800	5,755	3,044	34.6	48.1	2.2	3,030	152.1	6.9	0.4
Number of children less than 5 years old:										
One child	5,884	2,399	3,486	59.2	45.4	1.8	2,996	121.5	6.6	0.3
Two or more children	1,493	593	900	60.3	60.1	4.3	3,095	378.9	8.4	1.1
Employment status:										
Part time	6,279	4,788	1,491	23.7	37.0	2.5	2,917	285.0	5.5	0.6
Full time	12,026	7,774	4,251	35.3	46.8	1.7	3,063	117.2	6.6	0.3
Occupation:[5]										
Managerial-professional	4,084	2,509	1,575	38.6	55.0	3.5	4,275	317.4	5.6	0.4
Technical, sales, and administrative support	7,906	5,443	2,463	31.2	43.4	2.0	2,813	117.9	6.7	0.3
Service workers	3,753	2,910	843	22.5	33.9	2.5	1,961	164.3	7.5	0.7
Farming, forestry, and fishing	222	172	50	22.5	38.2	9.9	3,541	1460.9	4.7	2.0
Precision production, craft, and repair	409	273	136	33.3	40.7	4.7	2,866	543.9	6.2	1.2
Operators, fabricators, and laborers	1,897	1,241	656	34.6	36.0	3.1	2,194	162.3	7.1	0.6
Monthly family income:										
Less than $1,250	2,990	2,202	788	26.4	32.6	2.2	846	38.5	16.7	0.9
$1,250 to $2,499	5,998	4,135	1,864	31.1	37.7	1.9	1,876	30.2	8.7	0.2
$2,500 to $3,749	4,927	3,335	1,593	32.3	43.8	2.4	3,059	32.0	6.2	0.2
$3,750 and over	4,389	2,891	1,498	34.1	59.1	3.7	5,564	304.6	4.6	0.3
Poverty level:										
Below poverty level	1,627	1,308	319	19.6	28.9	3.2	607	59.4	20.6	2.3
Near poverty level[6]	780	566	214	27.4	36.7	4.5	968	57.6	16.1	1.3
Not poor[7]	15,899	10,689	5,210	32.8	45.5	1.5	3,257	119.5	6.1	0.2
Region of residence:										
Northeast	3,275	2,416	859	26.2	52.5	5.5	3,512	441.3	6.5	0.9
Midwest	4,709	3,147	1,562	33.2	43.4	2.4	2,919	158.6	6.4	0.4
South	6,605	4,667	1,938	29.3	39.3	1.8	2,797	192.9	6.1	0.4
West	3,716	2,333	1,383	37.2	46.9	2.9	3,162	205.6	6.4	0.5
Educational attainment:										
Less than high school	2,613	2,004	609	23.3	32.2	2.6	1,929	187.2	7.2	0.8
High school	8,268	5,806	2,462	29.8	40.3	1.7	2,580	157.7	6.8	0.4
College, 1 or more years	7,425	4,723	2,672	36.0	50.7	2.5	3,685	180.7	6.0	0.3

[1]Mean expenditures for women making child care payments.
[2]Average monthly income for 4 months preceding survey date. Refers only to women making child care payments.
[3]Mean weekly child care expenses prorated to a monthly average.
[4]Includes married, husband absent (including separated), widowed, divorced, and never-married women.
[5]Excludes women in the Armed Forces.
[6]100 up to 125 percent of poverty level.
[7]125 percent and over of poverty level.

Table 7. **Weekly Child Care Expenditures and Monthly Family Income**—Continued
Part B. Fall 1987

(Numbers in thousands. For meaning of symbols, see text)

Characteristic	Number of women	No payments made	Payments made		Weekly child care expenses[1]		Monthly family income[2]		Income spent on child care per month[3]	
			Number	Percent	Mean	Standard error	Mean	Standard error	Percent	Standard error
Total	18,501	12,333	6,168	33.3	$48.5	$1.8	$3,165	$145.9	6.6	0.3
Race and Hispanic origin:										
White	15,402	10,296	5,106	33.2	51.1	2.1	3,288	170.4	6.7	0.4
Black	2,517	1,673	844	33.5	34.6	2.6	2,256	190.3	6.6	0.6
Hispanic	1,557	966	590	37.9	42.0	3.5	2,581	258.4	7.1	0.8
Not Hispanic	16,944	11,366	5,578	32.9	49.1	1.9	3,226	158.7	6.6	0.3
Marital status:										
Married, spouse present	13,973	9,315	4,658	33.3	50.4	2.2	3,487	107.4	6.3	0.2
All other marital statuses[4]	4,528	3,018	1,510	33.3	42.4	3.0	2,171	483.8	8.5	1.9
Age of youngest child:										
Less than 1 year	1,500	713	788	52.5	58.1	5.6	3,227	402.3	7.8	1.0
1 and 2 years	3,532	1,450	2,082	58.9	53.8	3.4	3,076	144.4	7.6	0.4
3 and 4 years	2,882	1,228	1,654	57.4	50.9	2.8	3,051	169.4	7.2	0.4
5 years old and over	10,587	8,493	1,644	15.5	34.6	3.2	3,362	447.4	4.5	0.6
Number of children:										
One child	9,528	6,564	2,965	31.1	43.8	2.3	3,235	268.6	5.9	0.5
Two or more children	8,973	5,769	3,204	35.7	52.8	2.7	3,100	131.2	7.4	0.4
Number of children less than 5 years old:										
One child	6,373	2,717	3,656	57.4	49.4	1.9	3,093	124.0	6.9	0.3
Two or more children	1,541	673	836	54.3	70.9	7.0	3,092	291.0	9.9	1.0
Employment status:										
Part time	6,103	4,607	1,497	24.5	41.4	3.5	2,939	214.6	6.1	0.5
Full time	12,398	7,726	4,671	37.7	50.7	2.1	3,237	179.9	6.8	0.4
Occupation:[5]										
Managerial-professional	4,574	2,795	1,779	38.9	54.6	3.3	3,846	202.7	6.2	0.4
Technical, sales, and administrative support	7,732	5,044	2,688	34.8	48.4	2.7	3,056	129.7	6.9	0.3
Service workers	3,619	2,718	902	24.9	39.4	5.1	2,708	794.8	6.3	1.9
Farming, forestry, and fishing	284	230	53	18.7	43.3	12.8	2,287	589.8	8.2	2.4
Precision production, craft, and repair	390	254	136	34.9	58.3	14.2	2,815	534.1	9.0	2.0
Operators, fabricators, and laborers	1,867	1,292	575	30.8	39.9	3.1	2,454	249.9	7.0	0.8
Monthly family income:										
Less than $1,250	2,661	1,923	739	27.8	39.2	3.4	821	42.4	20.7	1.4
$1,250 to $2,499	5,941	4,023	1,918	32.3	40.0	2.0	1,894	31.7	9.2	0.3
$2,500 to $3,749	5,073	3,295	1,777	35.0	47.0	3.0	3,078	32.5	6.6	0.2
$3,750 and over	4,826	3,092	1,735	36.0	63.3	4.6	5,655	427.3	4.9	0.4
Poverty level:										
Below poverty level	1,434	1,088	346	24.1	35.2	4.3	610	63.2	25.0	3.0
Near poverty level[6]	811	583	228	28.1	38.6	5.5	1,025	65.4	16.3	1.5
Not poor[7]	16,256	10,661	5,595	34.4	49.7	1.9	3,409	155.6	6.3	0.3
Region of residence:										
Northeast	3,308	2,412	896	27.1	57.2	6.9	3,510	275.5	7.1	0.7
Midwest	5,029	3,227	1,801	35.8	46.3	2.6	3,029	200.5	6.6	0.5
South	6,383	4,402	1,981	31.0	42.9	2.5	2,821	138.4	6.6	0.4
West	3,781	2,292	1,490	39.4	53.2	4.0	3,578	492.2	6.4	0.9
Educational attainment:										
Less than high school	2,522	1,864	657	26.1	35.5	2.9	2,082	182.6	7.4	0.7
High school	8,089	5,721	2,368	29.3	45.7	2.5	2,905	320.7	6.8	0.8
College, 1 or more years	7,890	4,747	3,143	39.8	53.2	2.8	3,587	142.1	6.4	0.3

[1]Mean expenditures for women making child care payments.
[2]Average monthly income for 4 months preceding the survey data. Refers only to women making child care payments.
[3]Mean weekly child care expenses prorated to a monthly average.
[4]Includes married, husband absent (including separated), widowed, divorced, and never-married women.
[5]Excludes women in the Armed Forces.
[6]100 up to 125 percent of poverty level.
[7]125 percent and over of poverty level.

Appendix A. Overview of the SIPP Program

BACKGROUND

The Survey of Income and Program Participation (SIPP) provides a major expansion in the kind and amount of information available to analyze the economic situation of households and persons in the United States. The information supplied by this survey is expected to provide a better understanding of changes in the level of well-being of the population and how economic situations are related to the demographic and social characteristics of individuals. The data collected in SIPP will be especially useful in studying Federal transfer programs, estimating program cost and effectiveness, and assessing the effect of proposed changes in program regulations and benefit levels. Analysis of other important national issues, such as tax reform, Social Security program costs, and national child care programs can be expanded and refined, based on the information from this survey.

SURVEY CONTENT

There are three basic elements contained in the overall design of the content of the survey. The first is a control card that serves several important functions. The control card is used to record basic social and demographic characteristics for each person in the household at the time of the initial interview. Because households in the SIPP panels of 1985 through 1987 were interviewed up to eight times, the card is also used to record changes in characteristics such as age, educational attainment, and marital status, and to record the dates when persons enter or leave the household. Finally, during each interview, information on each source of income received and the name of each job or business is transcribed to the card so that this information can be used in the updating process in subsequent interviews.

The second major element of the survey content is the core portion of the questionnaire. The core questions are repeated at each interview and cover labor force activity, the types and amounts of income received, and participation status in various programs during the 4-month reference period prior to the interview date. Some of the important elements of labor force activity are recorded separately for each week of the period. Income recipience and amounts are recorded on a monthly basis with the exception of amounts of property income (interest, dividends, rent, etc.). Data for these types are recorded as totals for the 4-month period. The core also contains questions covering attendance in postsecondary schools, private health insurance coverage, public or subsidized rental housing, low income energy assistance, and school breakfast and lunch participation.

The third major element is the various supplements or topical modules that will be included during selected household visits. The topical modules cover areas that need not be examined every 4 months. Certain of these topical modules are considered to be so important that they are viewed as an integral part of the overall survey. Other topical modules have more specific and more limited purposes. The sixth wave of the 1985 SIPP panel and the third and sixth waves of the 1986 and 1987 panels contained items on child care arrangements used by families with children under 15 years of age. These panels were used to produce the data shown in this report.

SAMPLE DESIGN

Each household in the SIPP sample is scheduled to be interviewed at 4 month periods. The reference period for most of the core income and labor force items is the 4-month period preceding the interview. For example, households interviewed in September 1986 were asked questions for the months May, June, July, and August. In the case of the child care items, the reference period is for the month prior to the interview date.

The sample households within a given panel are divided into four subsamples of nearly equal size. These subsamples are called rotation groups and one rotation group is interviewed each month. In general, one cycle of four interviews covering the entire sample, using the same questionnaire, is called a wave (occasionally, only three rotation groups are interviewed). This design was chosen because it provides a smooth and steady work load for data collection and processing.

In this report, wave 6 of the 1985 panel and wave 3 of the 1986 panel both covered the common interview months of October, November, and December, 1986. Likewise, wave 6 of the 1986 panel and wave 3 of the 1987 panel covered the common interview months of October, November, and December 1987. This overlapping design provides a larger sample from which cross-sectional estimates can be made. The overlap also

enhances the survey's ability to measure change by lowering the standard errors on differences between estimates for two points in time.

SURVEY OPERATIONS

Data collection operations are managed through the Census Bureau's 12 permanent regional offices. A staff of interviewers assigned to SIPP conduct interviews by personal visit each month with most interviewing completed during the first 2 weeks of that month. Completed questionnaires are transmitted to the regional offices where they undergo an extensive clerical edit before being entered into the Bureau's SIPP data processing system. Upon entering this processing system, the data are subjected to a detailed computer edit. Errors identified in this phase are corrected and computer processing continues.

Two of the major steps of computer processing are the assignment of weights to each sample person and imputation for missing survey responses. The weighting procedures assure that SIPP estimates of the number of persons agree with independent estimates of the population within specified age, race, and sex categories. The procedures also assure close correspondence with monthly CPS estimates of households. In cases where there were missing or inconsistent data in the child care items, a survey nonresponse was assigned a value in the imputation phase of processing. (See appendix D for more details about the imputation procedures.)

The longitudinal design of SIPP dictates that all persons 15 years old and over present as household members at the time of the first interview be part of the survey throughout the entire length of the survey period (about 2 1/2 years). To meet this goal the survey collects information useful in locating persons who move. In addition, field procedures were established that allow for the transfer of sample cases between regional offices. Persons moving within a 100-mile radius of an original sampling area (a county or group of counties) are followed and continue with the normal personal interviews at 4-month intervals. Those moving to a new residence that falls outside the 100-mile radius of any SIPP sampling area are interviewed by telephone. The geographic areas defined by these rules contain more than 95 percent of the U.S. population.

Because many types of analysis using SIPP data will be dependent not on data for individuals but on groups of individuals (households, families, etc.), provisions were made to interview all "new" persons living with original sample persons (those interviewed in the first wave). These new sample persons entering the survey through contact with original sample persons are considered as part of the sample only while residing with the original sample person.

Appendix B. Definitions and Explanations

Population coverage. The estimates in this report are restricted to the civilian, noninstitutional population of the United States and members of the Armed Forces living off post or with their families on post. The estimates exclude persons in group quarters.

Age. The age (in years) of the child is based on the age of the person at his last birthday.

Race. The population is divided into three groups on the basis of race: White, Black, and "other races." The last category includes American Indians, Asian/Pacific Islanders, and any other race except White and Black.

Hispanic origin. Persons of Hispanic origin were determined on the basis of a question that asked for self-identification of the person's origin or descent. Respondents were asked to select their origin (or the origin of some other household member) from a "flash card" listing ethnic origins. Hispanics, in particular, were those who indicated that their origin was Mexican, Puerto Rican, Cuban, Central or South American, or some other Spanish origin. It should be noted that Hispanics may be of any race.

Marital status. Data refer to marital status at the time of the survey. Two classifications are used in this report: "married, spouse present" and "all other marital statuses" (also sometimes referred to as "unmarried"). The latter classification includes persons who are separated, married but whose spouse is absent from the household, widowed, divorced, or single (never married).

Children. Children in this report refer to all persons under 15 years old in households who are living either with their natural parents, adopted or step-parents, or with legal guardians. Excluded are children in foster homes. Preschool-age children are defined as children under 5 years old, while grade-school age children are those 5 to 14 years old. Infants are defined as children under 1 year of age.

Child care arrangements. Data on child care arrangements were obtained from persons interviewed during the period of October to December 1986 and 1987 and who were the parents or legal guardians of children under 15 years old at the time of the interview and who were also employed during the month prior to the interview. The arrangements used to care for the children refer to the arrangements usually used during the month preceding the interview while the parent/guardian was at work, or enrolled in school.

Child care arrangements for each child were classified as either primary or secondary arrangements depending on which arrangement was used most and which was used second most (as measured in hours) during a typical week. Attending school and care by the child himself were also included as possible child care arrangements since they indicate what the child was doing during the hours that the mother was at work or in school.

Child care expenses. The monetary amounts shown in this report represent the estimated weekly costs for all children under 15 years old while the mother was at work or in school. Excluded are the amounts of any noncash payments made for child care services. Costs attributable to nursery schools or preschools are included but costs incurred when enrolling a child in kindergarten or grade school are excluded from the estimates.

Time lost from work or school. This refers to the time lost from work or school by the respondent or the respondent's spouse in the reference month due to a failure in obtaining child care arrangements.

Employment status. Persons in the child care supplement were classified as being employed in the month preceding the interview if they either (a) worked as paid employees or worked in their own business or profession or on their own farm or worked without pay in a family business or farm, or (b) were temporarily absent from work either with or without pay.

Full-time and part-time employment. The data on full- and part time workers pertain to the number of hours a person usually works per week from all jobs, either as an employee or in his own business or profession. Persons who report themselves as usually working 35 or more hours each week are classified as full-time workers; persons who report that they usually work fewer than 35 hours per week are classified as part-time workers.

Occupation. Data refer to the civilian job currently held at the time of the interview. If two or more jobs were

held, the occupation shown in this report refers to the job in which the respondent worked the most hours.

Years of school completed. Data on years of school completed in this report are derived from the combination of answers to questions concerning the highest grade of school attended by the person and whether or not that grade was completed. The following categories used in this report are based on the number of years of school completed which may or may not coincide with actual achievement of any degrees attained or diplomas granted: not a high school graduate (less than 12 years); high school graduate (12 years); college, 1 to 3 years (13 through 15 years); and college, 4 or more years (16 or more years of school completed).

School enrollment. School enrollment in this report includes enrollment in an elementary, high school, or college, or any vocational, technical, or business school.

Geographic regions. The four major regions of the United States for which data are presented in this report represent groups of States as follows:

Northeast: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.

Midwest: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouori, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin.

South: Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

West: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

Family income. Family money income represents the total money income of all members of the family. It is the average monthly amount reported for the 4-month period prior to the survey date. The income estimates cited in this report are based on money income alone and do not include the value of noncash benefits.

Mean income. The mean income is the amount obtained by dividing the total income of a group by the number of units in that group.

Poverty level. Persons whose monthly family income for the 4 month period prior to the survey interview fell below the average monthly poverty level cutoff for that family were determined to be living in poverty in this report. Persons whose family income was 100 up to 125 percent of the poverty cutoff are defined as living "near poverty", while persons whose monthly income averaged 125 percent or more of the poverty cutoff were defined as "not poor". The poverty threshold for a family of 4 during the 1986 and 1987 interview periods was about $11,500 annually or $950 per month.

Symbols. A dash (-) represents zero or a number which rounds to zero; "B" means that the base is too small to show the derived measure (less than 200,000 persons).

Rounding of estimates. Individual numbers are rounded to the nearest thousand without being adjusted to group totals which are independently rounded. Derived measures are based on unrounded numbers when possible; otherwise, they are based on the rounded numbers.

Appendix C. Source and Accuracy of Estimates

SOURCE OF DATA

The SIPP universe is the noninstitutionalized resident population living in the United States. This population includes persons living in group quarters, such as dormitories, rooming houses, and religious group dwellings. Crew members of merchant vessels, Armed Forces personnel living in military barracks, and institutionalized persons, such as correctional facility inmates and nursing home residents, were not eligible to be in the survey. Also, United States citizens residing abroad were not eligible to be in the survey. Foreign visitors who work or attend school in this country and their families were eligible; all others were not eligible. With the exceptions noted above, persons who were at least 15 years of age at the time of the interview were eligible to be interviewed in the survey.

The 1985, 1986, and 1987 panel SIPP samples are located in 230 primary sampling units (PSU's) each consisting of a county or a group of contiguous counties. Within these PSU's, expected clusters of two to four living quarters (LQ's) were systematically selected from lists of addresses prepared for the 1980 decennial census to form the bulk of the sample. To account for LQ's built within each of the sample areas after the 1980 census, a sample was drawn of permits issued for construction of residential LQ's up until shortly before the beginning of the panel. In jurisdictions that do not issue building permits, small land areas were sampled and the LQs within were listed by field personnel and then subsampled. In addition, sample LQ's were selected from a supplemental frame that included LQs identified as missed in the 1980 census and group quarters.

The first interview of each panel was conducted during February, March, April, and May of that particular year. Approximately one-fourth of the sample was interviewed in each of these months. These four subsamples are called rotation groups 1, 2, 3, and 4. One rotation group was interviewed each month. Each sample person was visited every 4 months thereafter for roughly 2 1/2 years. At each interview the reference period was the 4 months preceding the interview month. In general, one cycle of four interviews covering the entire sample, using the same questionnaire, is called a wave. The exceptions were Wave 2 of the 1985 panel and Wave 3 of the 1986 panel which covered three interviews.

Approximately 17,800, 16,300, and 16,700 living quarters were originally designated for the 1985, 1986, and 1987 samples, respectively. At the first interview, interviews were obtained from the occupants of about 13,400 of the 17,800 designated LQ's for the 1985 panel, 11,500 of the 16,300 designated LQ's for the 1986 panel, and 11,700 for the 16,700 designated LQs for the 1987 panel. Most of the remaining 4,400, 4,800, and 5,000 LQ's in the 1985, 1986, and 1987 panels respectively, were found to be vacant, demolished, converted to nonresidential use, or otherwise ineligible for the survey. However, approximately 1,000 of the 4,400 LQ's for the 1985 panel, 900 of the 4,800 LQ's for the 1986 panel, and 800 of the 5000 LQ's for the 1987 panel were not interviewed because the occupants refused to be interviewed, could not be found at home, were temporarily absent, or were otherwise unavailable. Thus, occupants of about 93 percent of all eligible living quarters for all three panels participated in the first interview of the survey.

For subsequent interviews, only original sample persons (those interviewed in the first interview) and persons living with them were eligible to be interviewed. With certain restrictions, original sample persons were followed if they moved to a new address. When original sample persons moved to remote parts of the country and no telephone number was available, moved without leaving a forwarding address or refused to be interviewed, additional noninterviews resulted.

As part of most waves, subjects were covered that do not require repeated measurement during the panel and are of particular interest cross-sectionally for research purposes. A specific set of topical questions are referred to as a topical module. For this report the topical modules analyzed included questions on child care. They were implemented in Wave 6 of the 1985 panel, Wave 3 and 6 of the 1986 panel and Wave 3 of the 1987 panel.

Wave 6 of the 1985 panel and Wave 3 of the 1986 panel cover the common interview months of October, November, and December 1986. Likewise, Wave 6 of the 1986 panel and Wave 3 of the 1987 panel cover the common interview months of October, November, and December 1987. The data for concurrent time periods were combined and analyzed as a single data set. The primary motivation for combining this data is to obtain

an increase in sample size in conjunction with a reduction in time in sample bias, if any, due to repeated interviews and nonresponse over the life of a panel.

Noninterviews. Tabulations in this report were drawn from interviews conducted from October through December 1986 for fall 1986 estimates and from October through December 1987 for fall 1987 estimates. Table C-1 summarizes information on nonresponse for the interview months in which the data used to produce this report were collected.

Table C-1. **Combined 1985-86 and 1986-87 Household Sample Size, by Month and Interview Status**

Month	Eligible	Interviewed	Noninterviewed	Nonresponse rate (percent)
October 1986	6,700	5,500	1,200	18
November 1986	6,600	5,500	1,200	18
December 1986	6,600	5,400	1,200	18
October 1987	6,700	5,500	1,200	18
November 1987	6,700	5,500	1,200	18
December 1987	6,500	5,400	1,100	17

* Due to rounding of all numbers to 100, there are some inconsistencies. The percentage was calculated using unrounded numbers.

Some respondents do not respond to some of the questions. Therefore, the overall nonresponse rate for some items such as income and money related items is higher than the nonresponse rates in table C-1.

ESTIMATION

The estimation procedure used to derive SIPP person weights in each panel involved several stages of weight adjustments. In the first wave, each person received a base weight equal to the inverse of his/her probability of selection. For each subsequent interview, each person received a base weight that accounted for following movers.

A noninterview factor was applied to the weight of every occupant of interviewed households to account for persons in noninterviewed occupied households which were eligible for the sample. (Individual nonresponse within partially interviewed households was treated with imputation. No special adjustment was made for noninterviews in group quarters.) A factor was applied to each interviewed person's weight to account for the SIPP sample areas not having the same population distribution as the strata from which they were selected. The Bureau has used complex techniques to adjust the weights for nonresponse, but the success of these techniques in avoiding bias is unknown.

An additional stage of adjustment to persons' weights was performed to reduce the mean square errors of the survey estimates. This was accomplished by bringing the sample estimates into agreement with monthly Current Population Survey (CPS) type estimates of the civilian (and some military) noninstitutional population of the United States by demographic characteristics including age, sex, race, and Hispanic ethnicity as of the specified control date. The CPS estimates by age, race, sex, and Hispanic origin were themselves brought into agreement with estimates from the 1980 decennial census which have been adjusted to reflect births, deaths, immigration, emigration, and changes in the Armed Forces since 1980. Also, an adjustment was made so that husbands and wives within the same household were assigned equal weights.

ACCURACY OF ESTIMATES

SIPP estimates are based on a sample; they may differ somewhat from the figures that would have been obtained if a complete census had been taken using the same questionnaire, instructions, and enumerators. There are two types of errors possible in an estimate based on a sample survey: nonsampling and sampling. We are able to provide estimates of the magnitude of SIPP sampling error, but this is not true of nonsampling error. Found in the next sections are descriptions of sources of SIPP nonsampling error, followed by a discussion of sampling error, its estimation, and its use in data analysis.

Nonsampling variability. Nonsampling errors can be attributed to many sources, e.g., inability to obtain information about all cases in the sample, definitional difficulties, differences in the interpretation of questions, inability or unwillingness on the part of the respondents to provide correct information, inability to recall information, errors made in collection such as in recording or coding the data, errors made in processing the data, errors made in estimating values for missing data, biases resulting from the differing recall periods caused by the interviewing pattern used, and failure of all units in the universe to have some probability of being selected for the sample (undercoverage). Quality control and edit procedures were used to reduce errors made by respondents, coders and interviewers. More detailed discussions of the existence and control of nonsampling errors in the SIPP can be found in the *Quality Profile for the Survey of Income and Program Participation*, SIPP Working Paper, July 1987, No. 8708 by King, Petroni, and Singh.

Undercoverage in SIPP results from missed living quarters and missed persons within sample households. It is known that undercoverage varies with age, race, and sex. Generally, undercoverage is larger for males than for females and larger for Blacks than for non-Blacks. Ratio estimation to independent age-race-sex population controls partially corrects for the bias

due to survey undercoverage. However, biases exist in the estimates to the extent that persons in missed households or missed persons in interviewed households have characteristics different from those of interviewed persons in the same age-race-sex group. Further, the independent population controls used have not been adjusted for undercoverage.

Unique to the 1986 Panel, maximum telephone interviewing was tested in Waves 2, 3, and 4. Specifically, half of the sample in rotations 4 and 1 of Wave 2 and rotations 2 and 3 of Wave 3 (Phase I) and rotations 2, 3, and 4 of Wave 4 (Phase II) were designated for telephone interviews. Analysis (done by designated mode) of household nonresponse, item nonresponse rates for labor force and income core items, and selected cross-sectional estimates of recipiency, income, low income status, and selected topical module items gave no indication of an overall significant mode effect. However, analysis was restricted to a limited number and type of estimates. If differences between two time periods or differences in characteristics for demographic groups result in borderline significant differences, the significance may be due to bias from the use of the telephone mode. Similarly, borderline insignificant differences may also be due to this bias. Thus, although no overall significant mode effect was detected, the user should consider the possibility of mode effects while analyzing exclusively the 1986 Panel data or combined data involving the 1986 Panel after Wave 1, especially results based on Waves 2 through 4 data. Details on analyses are in "Preliminary Evaluation of Maximum Telephone Interviewing on the SIPP" (paper by Gbur and Petroni in the forthcoming 1989 Proceedings of the Survey Research Methods Section, American Statistical Association) and "SIPP 86: Telephone Experiment Preliminary Analysis" (internal Census Bureau draft memorandum from Waite to Davey, August 21, 1989).

Comparability with other estimates. Caution should be exercised when comparing data from this report with data from other SIPP publications or with data from other surveys. The comparability problems are caused by such sources as the seasonal patterns for many characteristics, different nonsampling errors, and different concepts and procedures.

Sampling variability. Standard errors indicate the magnitude of the sampling error. They also partially measure the effect of some nonsampling errors in response and enumeration, but do not measure any systematic biases in the data. The standard errors for the most part measure the variations that occurred by chance because a sample, rather than the entire population, was surveyed.

USES AND COMPUTATION OF STANDARD ERRORS

Confidence Intervals. The sample estimate and its standard error enable one to construct confidence intervals, ranges that would include the average result of all possible samples with a known probability. For example, if all possible samples were selected, each of these being surveyed under essentially the same conditions and using the same sample design, and if an estimate and its standard error were calculated from each sample, then:

1. Approximately 68 percent of the intervals from one standard error below the estimate to one standard error above the estimate would include the average result of all possible samples.

2. Approximately 90 percent of the intervals from 1.6 standard errors below the estimate to 1.6 standard errors above the estimate would include the average result of all possible samples.

3. Approximately 95 percent of the intervals from two standard errors below the estimate to two standard errors above the estimate would include the average result of all possible samples.

The average estimate derived from all possible samples is or is not contained in any particular computed interval. However, for a particular sample, one can say with a specified confidence that the average estimate derived from all possible samples is included in the confidence interval.

Hypothesis testing. Standard errors may also be used for hypothesis testing, a procedure for distinguishing between population characteristics using sample estimates. The most common types of hypotheses tested are 1) the population characteristics are identical versus 2) they are different. Tests may be performed at various levels of significance, where a level of significance is the probability of concluding that the characteristics are different when, in fact, they are identical.

All statements of comparison in the report have passed a hypothesis test at the 0.10 level of significance or better. This means that, for differences cited in the report, the estimated absolute difference between parameters is greater than 1.6 times the standard error of the difference.

To perform the most common test, compute the difference $X_A - X_B$, where X_A and X_B are sample estimates of the characteristics of interest. A later section explains how to derive an estimate of the standard error of the difference $X_A - X_B$. Let that standard error be s_{DIFF}. If $X_A - X_B$ is between -1.6 times s_{DIFF} and +1.6 times s_{DIFF}, no conclusion about the characteristics is justified at the 10 percent significance level. If, on the other hand, $X_A - X_B$ is smaller than -1.6 times s_{DIFF} or larger than +1.6 times s_{DIFF}, the observed difference is significant at the 10 percent level. In this event, it is commonly accepted practice to say that the characteristics are different. Of course, sometimes this

conclusion will be wrong. When the characteristics are, in fact, the same, there is a 10 percent chance of concluding that they are different.

Note that as more tests are performed, more erroneous significant differences will occur. For example, if 100 independent hypothesis tests are performed in which there are no real differences, it is likely that about 10 erroneous differences will occur. Therefore, the significance of any single test should be interpreted cautiously.

Note concerning small estimates and small differences. Summary measures are shown in the report only when the base is 200,000 or greater. Because of the large standard errors involved, there is little chance that estimates will reveal useful information when computed on a base smaller than 200,000. Also, nonsampling error in one or more of the small number of cases providing the estimate can cause large relative error in that particular estimate. Estimated numbers are shown, however, even though the relative standard errors of these numbers are larger than those for the corresponding percentages. These smaller estimates are provided primarily to permit such combinations of the categories as serve each user's needs. Therefore, care must be taken in the interpretation of small differences since even a small amount of nonsampling error can cause a borderline difference to appear significant or not, thus distorting a seemingly valid hypothesis test.

Standard error parameters and tables and their use. Most SIPP estimates have greater standard errors than those obtained through a simple random sample because clusters of living quarters are sampled for the SIPP. To derive standard errors that would be applicable to a wide variety of estimates and could be prepared at a moderate cost, a number of approximations were required. Estimates with similar standard error behavior were grouped together and two parameters (denoted "a" and "b") were developed to approximate the standard error behavior of each group of estimates. Because the actual standard error behavior was not identical for all estimates within a group, the standard errors computed from these parameters provide an indication of the order of magnitude of the standard error for any specific estimate. These "a" and "b" parameters vary by characteristic and by demographic subgroup to which the estimate applies. Table C-2 provides parameters for fall 1986 estimates. Table C-3 provides parameters for fall 1987 estimates.

Table C-2. **SIPP Variance Parameters for Fall 1986 Child Care Estimates**

Characteristic	a	b	f
0-15 child care 1985 Wave 6/ 1986 Wave 3	-0.0001173	6,077	0.52
16+ income and labor force: Female	-0.0000679	6,075	0.52
All others:			
Both sexes	-0.0000958	22,092	1.00
Male	-0.0001982	22,092	1.00
Female	-0.0001855	22,092	1.00

Table C-3. **SIPP Variance Parameters for Fall 1987 Child Care Estimates**

Characteristic	a	b	f
0-15 child care 1986 Wave 6/ 1987 Wave 3	-0.0001110	5,772	0.52
16+ income and labor force: Female	-0.0000645	5,773	0.52
All others:			
Both sexes	-0.0000911	20,992	1.00
Male	-0.0001883	20,992	1.00
Female	-0.0001763	20,992	1.00

For those users who wish further simplification, we have also provided general standard errors in tables C-4, C-5, C-6, and C-7. Note that these standard errors must be adjusted by an "f" factor from table C-2 or C-3. The standard errors resulting from this simplified approach are less accurate. Methods for using these parameters and tables for computation of standard errors are given in the following sections.

Standard errors of estimated numbers. The approximate standard error, s_x, of an estimated number of persons shown in this report can be obtained in two ways.

It may be obtained by the use of the formula

$$s_x = fs \qquad (1)$$

where f is the appropriate "f" factor from table C-2 or C-3 and s is the standard error of the estimate obtained by interpolation from table C-4 or C-5.

Table C-4. **Standard Errors of Estimated Numbers of Persons for Fall 1986 Estimates**

(Numbers in thousands)

Size of estimate	Standard error	Size of estimate	Standard error
200	66	26,000	714
300	81	30,000	759
500	105	40,000	855
600	115	50,000	930
750	129	60,000	990
1,000	148	70,000	1038
2,000	209	80,000	1074
3,000	256	90,000	1101
5,000	329	100,000	1119
7,500	400	130,000	1119
8,000	413	135,000	1112
10,000	460	150,000	1076
11,000	481	160,000	1040
13,000	521	180,000	934
15,000	557	200,000	766
17,000	590	210,000	644
22,000	663	220,000	473
25,000	702	230,000	115

Table C-5. **Standard Errors of Estimated Numbers of Persons for Fall 1987 Estimates**

(Numbers in thousands)

Size of estimate	Standard error	Size of estimate	Standard error
200	65	26,000	696
300	79	30,000	740
500	102	40,000	833
600	112	50,000	907
750	125	60,000	965
1,000	145	70,000	1101
2,000	204	80,000	1047
3,000	249	90,000	1073
5,000	320	100,000	1090
7,500	390	130,000	1091
8,000	403	135,000	1083
10,000	448	150,000	1048
11,000	469	160,000	1013
13,000	507	180,000	909
15,000	543	200,000	745
17,000	575	210,000	625
22,000	646	220,000	457
25,000	684	230,000	95

Alternatively, s_x may be approximated by the formula

$$s_x = \sqrt{ax^2 + bx} \qquad (2)$$

Here x is the estimated number and "a" and "b" are the parameters associated with the particular type of characteristic being estimated. Use of formula (2) will provide more accurate results than the use of formula (1) above.

Illustration. The SIPP estimate of the total number of children under 15 years old living in the United States with working mothers in the fall of 1987 is 30,612,000 as indicated in table A of the report. The appropriate "a" and "b" parameters to use in calculating a standard error for the estimate are obtained from table C-3. They are a = -0.0001110 and b = 5,772, respectively. Using formula (2), the approximate standard error is

$$\sqrt{(-0.0001110)(30{,}612{,}000)^2 + (5{,}772)(30{,}612{,}000)} = 270{,}000$$

The 90-percent confidence interval as shown by the data is from 30,180,000 to 31,044,000. Therefore, a conclusion that the average estimate derived from all possible samples lies within a range computed in this way would be correct for roughly 90 percent of all samples.

Using formula (1), the appropriate "f" factor (f = 0.52) from table C-3, and the standard error of the estimate by interpolation using table C-5, the approximate standard error is

$$s_x = (0.52)(746{,}000) = 388{,}000$$

The 90-percent confidence interval as shown by the data is from 29,991,000 to 31,233,000.

Standard errors of estimated percentages. This section refers to the type of percentages presented in this report. These are the percentages of a group of persons possessing a particular attribute. An example of this type of percentage is the percentage of children under 15 years old who have working mothers. The reliability

Table C-6. **Standard Errors of Estimated Percentages of Persons for Fall 1986 Estimates**

Base of estimated percentage (thousands)	Estimated percentage					
	≤1 or ≥99	2 or 98	5 or 95	10 or 90	25 or 75	50
200	3.3	4.7	7.2	10.0	14.4	16.6
300	2.7	3.8	5.9	8.1	11.8	13.6
600	1.9	2.7	4.2	5.8	8.3	9.6
1,000	1.5	2.1	3.2	4.5	6.4	7.4
2,000	1.0	1.5	2.3	3.2	4.6	5.3
3,000	0.9	1.2	1.9	2.6	3.7	4.3
5,000	0.7	0.9	1.4	2.0	2.9	3.3
8,000	0.5	0.7	1.1	1.6	2.3	2.6
10,000	0.5	0.7	1.0	1.4	2.0	2.4
13,000	0.4	0.6	0.9	1.2	1.8	2.1
15,000	0.4	0.5	0.8	1.2	1.7	1.9
17,000	0.4	0.5	0.8	1.1	1.6	1.8
22,000	0.3	0.4	0.7	1.0	1.4	1.6
26,000	0.3	0.4	0.6	0.9	1.3	1.5
30,000	0.3	0.4	0.6	0.8	1.2	1.4
50,000	0.2	0.3	0.5	0.6	0.9	1.1
60,000	0.2	0.2	0.4	0.5	0.7	0.8
100,000	0.1	0.2	0.3	0.4	0.6	0.7
130,000	0.1	0.2	0.3	0.4	0.6	0.7
150,000	0.1	0.2	0.3	0.4	0.5	0.6
180,000	0.1	0.2	0.2	0.3	0.5	0.6
200,000	0.1	0.1	0.2	0.3	0.5	0.5
230,000	0.1	0.1	0.2	0.3	0.4	0.5

Table C-7. **Standard Errors of Estimated Percentages of Persons for Fall 1987 Estimates**

Base of estimated percentage (thousands)	Estimated percentage					
	≤1 or ≥99	2 or 98	5 or 95	10 or 90	25 or 75	50
200	3.2	4.5	7.1	9.7	14.0	16.2
300	2.6	3.7	5.8	7.9	11.5	13.2
600	1.9	2.6	4.1	5.6	8.1	9.4
1,000	1.4	2.0	3.2	4.3	6.3	7.2
2,000	1.0	1.4	2.2	3.1	4.4	5.1
3,000	0.8	1.2	1.8	2.5	3.6	4.2
5,000	0.6	0.9	1.4	1.9	2.8	3.2
8,000	0.5	0.7	1.1	1.5	2.2	2.6
10,000	0.5	0.6	1.0	1.4	2.0	2.3
13,000	0.4	0.6	0.9	1.2	1.7	2.0
15,000	0.4	0.5	0.8	1.1	1.6	1.9
17,000	0.3	0.5	0.8	1.1	1.5	1.8
22,000	0.3	0.4	0.7	0.9	1.3	1.5
26,000	0.3	0.4	0.6	0.9	1.2	1.4
30,000	0.3	0.4	0.6	0.8	1.1	1.3
50,000	0.2	0.3	0.4	0.6	0.9	1.0
80,000	0.2	0.2	0.4	0.5	0.7	0.8
100,000	0.1	0.2	0.3	0.4	0.6	0.7
130,000	0.1	0.2	0.3	0.4	0.6	0.6
150,000	0.1	0.2	0.3	0.4	0.5	0.6
180,000	0.1	0.2	0.2	0.3	0.5	0.5
200,000	0.1	0.1	0.2	0.3	0.4	0.5
230,000	0.1	0.1	0.2	0.3	0.4	0.5

of an estimated percentage, computed using sample data for both numerator and denominator, depends upon both the size of the percentage and the size of the total upon which the percentage is based. Estimated percentages are relatively more reliable than the corresponding estimates of the numerators of the percentages, particularly if the percentages are over 50 percent. For example, the percent of children under 15 yeas old who have working mothers is more reliable than the estimated number of children under 15 years old who have working mothers. When the numerator and denominator of the percentage have different parameters, use the parameter (and appropriate factor) of the numerator. If proportions are presented instead of percentages, note that the standard error of a proportion is equal to the standard error of the corresponding percentage divided by 100.

For the percentage of persons, the approximate standard error, $s_{(x,p)}$, of the estimated percentage p can be obtained by the formula

$$s_{(x,p)} = fs \qquad (3)$$

where f is the appropriate "f" factor from table C-2 or C-3 and s is the standard error of the estimate obtained by interpolation from table C-6 or C-7. Alternatively, it may be approximated by the formula

$$s_{(x,p)} = \sqrt{\frac{b}{x}p(100-p)} \qquad (4)$$

Here x is the base of the percentage, p is the percentage ($0 < p < 100$), and b is the "b" parameter associated with the characteristic in the numerator. Use of this formula will give more accurate results than use of formula (3) above.

Illustration. The SIPP estimate for the number of children under 15 years old is 52,092,000 as indicated in table A of the report. Of these, 58.8 percent had working mothers in the fall of 1987. Using formula (4) and the "b" parameter of 5,772 (from table 3), the approximate standard error is

$$\sqrt{\frac{(5{,}772)}{(52{,}092{,}000)}(58.8)(100\text{-}58.8)} = 0.5 \textit{ percent}$$

Consequently, the 90-percent confidence interval as shown by these data is from 58.0 to 59.6 percent.

Using formula (3), the appropriate "f" factor (f=0.52) from table 3, and the appropriate s by interpolation using table C-7, the approximate standard error is

$$s_x = (0.52)(0.9) = 0.5 \text{ percent}$$

The 90-percent confidence interval shown by these data is from 58.0 to 59.6 percent.

Standard error of a difference. The standard error of a difference between two sample estimates, x and y, is approximately equal to

$$s_{(x-y)} = \sqrt{s_x^2 + s_y^2 - 2rs_xs_y} \qquad (5)$$

where s_x and s_y are the standard errors of the estimates x and y, and r is the correlation coefficient between the characteristics estimated by x and y. The estimates can

be numbers, averages, percents, ratios, etc. Underestimates or overestimates of standard error of differences result if the estimated correlation coefficient is overestimated or underestimated, respectively.

Illustration. Suppose that we are interested in the difference in the percentage of children that receive primary child care in the child's home versus primary child care in another home in the fall of 1987. Of the 28,842,000 children with employed mothers, 18.7 percent were cared for in the child's home and 14.9 percent were cared for in another home (see table B of the report). Using parameters from table C-3, the standard errors of these percentages are approximately 0.6 percent for children cared for in the child's home and 0.5 percent for children cared for in another home.

Now, the standard error of the difference is computed using the above two standard errors. The correlation between these estimates is assumed to be zero. Therefore, the standard error of the difference is computed by formula (5):

$$\sqrt{(0.6)^2 + (0.5)^2} = 0.8 \text{ percent}$$

Suppose that it is desired to test at the 10 percent significance level whether the percentage of children cared for in the child's home differs significantly from the percentage of children cared for in another home. To perform the test, compare the difference of 3.8 percent to the product 1.6 x 0.8 percent = 1.3 percent. Since the difference is larger than 1.6 times the standard error of the difference, the data show that the estimates for the percentage of children cared for in the child's home and children cared for in another home differ significantly at the 10 percent level.

Appendix D. Data Quality

Two principal determinants of the quality of data collected in household surveys are the magnitude of the imputed responses and the accuracy of the responses that are provided. This appendix provides information on the imputation rates for selected child care items in the Survey of Income and Program Participation and covers some of the problems encountered in collecting data on child care expenses from the respondents in the survey. The fall 1986 data include the combined 1985 Wave 6 and 1986 Wave 3 panels conducted from September to November, 1986. Fall 1987 data consist of the combined 1986 Wave 6 and 1987 Wave 3 panels conducted from September to November 1987.

Imputed responses refer either to missing responses for specific questions or "items" in the questionnaire or to responses that were rejected in the editing procedure because of improbable or inconsistent responses. An example of the latter is when a 14-year-old child is said to be cared for in a nursery school during the time his or her parent is at work.

The estimates shown in this report are produced after all items have been edited and imputed whenever necessary. Missing or inconsistent responses to specific items are assigned a value in the imputation phase of the data processing operation. The procedure used to assign or impute most responses for missing or inconsistent data for the SIPP is commonly referred to as the "hot deck" imputation method. The process assigns item values reported in the survey by respondents to nonrespondents. The respondent from whom the value is taken is called the "donor." Values from donors are assigned by controlling edited demographic and labor force data available for both donors and nonrespondents. The control variables used for child care items generally included the age of the child for whom there was missing data, the parent's marital status, and whether the parent was employed full or part time or attending school.

Imputation rates for both primary and secondary child care arrangements for the respondents' three youngest children are shown in table D-1. The imputation rates are calculated by dividing the number of missing or inconsistent responses by the total number of responses that should have been provided based on the number of children in the household who required child care responses. In general, the level of imputation for primary child care arrangements for employed women in the SIPP panels in this report was about 4-5 percent. Higher imputation rates were found for secondary arrangements (from 6 to 15 percent).

Table D-1. **Imputation Rates for Items on Primary and Secondary Child Care Arrangements for Employed Women: Fall 1986 and 1987**

(Numbers represent actual numbers of children. Data shown are for combined panels)

Survey data and arrangement	Number of children	Percent imputed
FALL 1987		
Primary arrangement:		
First child	3,314	4.1
Second child	1,624	3.6
Third child	454	5.3
Secondary arrangement:		
First child	835	5.9
Second child	502	8.0
Third child	140	15.0
FALL 1986		
Primary arrangement:		
First child	3,331	4.7
Second child	1,606	3.9
Third child	457	5.3
Secondary arrangement:		
First child	813	6.4
Second child	458	6.8
Third child	112	12.5

Table D-2 shows imputation rates for items concerning time lost from work due to failures in child care arrangements and cash payments made for child care arrangements. Of the female respondents who were to answer the item if they or their spouse lost any time from work during the month prior to the survey date because of a failure in child care arrangements, about 7 to 8 percent had their responses imputed both in the surveys in fall 1986 and 1987. Another 8 percent in both time periods failed to answer the question if any cash payment was made for child care services, but for those who were determined to have made a cash payment, only about 4 percent failed to report on the amount of the payment.

Estimates of weekly child care payments presented special data collection problems. Because of the questionnaire format, information on specific child care costs

Table D-2. **Imputation Rates for Time Lost From Work Because of Failures in Arrangements and for Cash Payments Made for Arrangements: Fall 1986 and 1987**

(Numbers represent actual numbers of respondents. Data are shown for combined panels)

Type of payment	Number of respondents	Percent imputed
FALL 1987		
Time lost from work[1]	1,591	7.4
Was cash payment made?[1]	1,591	7.6
Amount of cash payment[2]	1,095	4.3
FALL 1986		
Time lost from work[1]	1,529	7.8
Was cash payment made?[1]	1,529	8.2
Amount of cash payment[2]	1,031	4.4

[1]Limited to respondents who used grandparents, other relatives (excluding family members), nonrelatives, day/group care centers, or nursery schools/preschools for primary or secondary child care arrangements for any of their three youngest children.

[2]Limited to respondents who were determined to have made a cash payment for child care arrangements.

for individual children or types of arrangements cannot be ascertained. Costs refer to expenditures for all children in the household. Unlike many other services purchased by individuals, the scope of duties and hours of child care services are not uniformly defined across households. Several types of problems can be anticipated in quantifying cost estimates for child care services. One such problem is that respondents often hire child care providers, who in addition to providing child care services, also preform other services such as household cleaning, cooking, and marketing. The total cash payment to the child care provider, therefore, occasionally includes payments for these other services which have a market value in addition to child care services. Thus, a respondent could not determine the actual cost incurred solely for the child care component out of the total cash payment.

Difficulties are also encountered in data interpretation when a single cash payment is made to a caretaker who provides child care services to more than one child in the household. Often, it is not possible for a respondent to prorate costs per child. Child care providers may spend varying amounts of time looking after children of different ages and would charge differential rates. Thus, it would be incorrect to assume that child care costs for individual children in the same household but in different age groups would be the same.